L 33999-65
ACCESSION NR: AP5006079

3

at atmospheric pressure gave primarily liquid hydrocarbons, as did synthesis on thorium-activated catalysts, while synthesis at 10 atm. gave, after a development period of 3-8 days, 100-110 g/m^3 of solid paraffin waxes which contained 20-30% liquid and 70-75% solid hydrocarbons; 15-20% of the solid fraction had melting points of 106-116C. Liquid and solid reaction products were fractionated and the physical and chemical characteristics of individual fractions are given. Orig. art. has: 5 tables, 1 figure and 1 formula.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo, AN SSSR (Organic chemistry institute, AN SSSR); Tsentral'naya laboratoriya Redkinskogo opytnogo zavoda (Central laboratory, Redkinsk experimental plant); Komiteta khimicheskoy promyshlennosti pri Gosplane SSSR (Chemical industry committee, State planning commission, SSSR)

SUBMITTED: 28Jan64 ENCL: 00 SUB CODE: OC

NO REF SOV: 012 OTHER: 009

Card 2/2

EYDUS, Ya.T.; NEFEDOV, B.K.

Initiation of hydropolymerization reaction of olefins during their hydrogenation in the presence of a cobalt catalyst at 200°. Izv. AN SSSR. Ser. khim. no.5:888-893 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

YERSHOV, N.I.; EYDUS, Ya.T.; YEROKHINA, V.R.; ANDREYEV, N.S.

Oxygen-initiated heterogeneous catalytic reaction of condensation of olefins in the presence of hydrogen. Part 5: Conversion of isobutylene. Kin. i kat. 6 no.2:300-305 Mr-Ap '65. (MIRA 18:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

EYDUS, Ya.T.; NEFEDOV, B.K.; BESPROZVANNYY, M.A.; PAVLOV, Yu.V.

Catalytic hydrocondensation of carbon monoxide with olefins and their hydropolymerization under the effect of carbon monoxide and hydrogen. Report No.39: Activity of rhodium-based catalysts. Izv. AN SSSR. Ser. khim. no.7:1160-1169 '65. (MIRA 18:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

NEFEDOV, B.K.; EYDUS, Ya.T.

Development of the catalytic syntheses of organic compounds from carbon monoxide and hydrogen. Usp.khim. 34 no.4:630-652 Ap '65. (MIRA 18:8)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.

EYDUS, Ya.T.; KRAL, T.A.

Synthesis of esters and other derivatives of [illegible] under conditions of acid catalysis from carbon [illegible] olefins, and acylating compounds. Part 14: [illegible] the course of carbomethoxylation of butylenes, [illegible] alcohol. Zhur. ob. Khim. 35 no.1:124-125 Ja '65.

1. Institut organicheskoy khimii imeni N.D. [illegible]

EYDUS, Ya.T.; YERSHOV, V.I.

Initiated heterogeneous-catalytic reactions. Dokl. AN SSSR 162 no.3: 610-612 My '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
Submitted November 11, 1964.

L 40025-66 EWT(m)/EWP(j)/T RM
ACC NR: AP6011657 SOURCE CODE: UR/0020/66/167/003/0583/0585

32
B

AUTHOR: Yershov, N. I.; Eydus, Ya. T.; Guseva, I. V.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: The initiating effect of carbon monoxide during hydropolymerization of ethylene in the presence of hydrogen

SOURCE: AN SSSR. Doklady, v. 167, no. 3, 1966, 583-585

TOPIC TAGS: polymerization initiator, carbon monoxide, ethylene, reaction mechanism

ABSTRACT: The report describes conditions for the hydropolymerization of ethylene at 190C, during which the hydrogen reduction of carbon monoxide is almost completely absent and the monoxide is not detectable in the end products of the process. Preliminary exposure of the reduced Co catalyst to the monoxide, or to a gas containing it, at 100C represents one method of obtaining such conditions. The ratio of ethylene to hydrogen is especially significant in the process and can serve to control the catalyst's ability to reduce CO. In such cases the monoxide functions as the initiating agent through any of the four described reaction variants.

UDC: 66.097.13

Card 1/2

EYDUS, Yefim Samoylovich; TAL'VIK, P.I., red.; KULEVA, M.S., tekhn.red.

[Manufacture of medical instruments and parts of apparatus] Tekhnologiia proizvodstva meditsinskikh instrumentov i detalei priborov. Gos.izd-vo med.lit-ry, Leningr.otd-nie, 1958. 319 p. (MIRA 12:4)

(MEDICAL INSTRUMENTS AND APPARATUS)

SMILAUER, Adolf, inz. dr.; HYEMOVA, Jirina, inz.

Contribution to the optimalization of operational planning.
Podn org 19 no.4:159-163 Ap '65.

1. Research Institute of Mechanical Engineering and Economics, Prague.

EYEMOVA, Jirina, inz.; HOLY, Rudolf, inz.

Continuous operational planning of serial production. Podn org 19 no.5:213-215 My '65.

1. Research Institute of Mechanical Engineering and Economics, Prague.

GROZOVSKIY, T.S.; DONSKOY, D.I.; KAGAN, D.Kh.; ISAYEV, F.P., inzhener, redaktor; EYFEL', A.I., inzhener, redaktor katalogov i plakatov; MATVEYEVA, Ye.N., tekhnicheskiy redaktor; MODEL', B.I., tekhnicheskiy redaktor.

[Repairable and spare parts for the ZIS-150 automobile; album of design] Remontiruemye i dopolnitel'no-remontnye detali avtomobilia ZIS-150; al'bom chertezhei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1951. 137 p. (MLRA 8:1)
(Automobiles--Apparatus and supplies)

EYFER, I.Z.; BERNER, Ye.I.

Electrophysical properties of viscose fibers. Khim. volok. no.4:45-49 '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

EYFER, I.Z.; BERNER, Ye.I.

Thermophysical properties of the fibers of hydrated cellulose.
Khim. volok. no.4:44-46 '64. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

EYFER, I.Z.; FAYNBERG, E.Z.; MIKHAYLOV, N.V.

Effect of the orientation of molecular chains on the dielectric anisotropy of fibers. Khim. volok. no.2:48-50 '65. (MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

LIPINSKIY, S.P.; SAKHAROV, I.P.; EYFER, I.Z.

Formation of viscose fiber with a variable rate for winding into large packages. Khim. volok. no.3:32-34 '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

L 40810-65 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EWP(j)/EEC(t)/T Pc-4/Pr-4/Pt-10/
P1-4 IJP(c) GG/RM
ACCESSION NR: AP5008364 S/0190/65/007/003/0411/0416

65
60
B

AUTHORS: Mikhaylov, N. V.; Faynberg, E. Z.; Eyfer, I. Z.

TITLE: A method of determining orientation of polymer materials by the dielectric constant

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 3, 1965, 411-416

TOPIC TAGS: dielectric constant, polymer, orientation, anisotropy, polypropylene, polytetrafluoroethylene, polyethylene terephthalate

ABSTRACT: The authors have developed a method for determining the orientation of molecular chains in polymeric material, such as fibers, by measuring the dielectric constant. This technique assumes that the material is electrically anisotropic. This anisotropy may be represented by the index $n = \varepsilon_{aa}/\varepsilon_{rr}$, where ε_{aa} is the dielectric constant in the axial direction, ε_{rr} in the radial direction. Direct measurements of E_{rr} with satisfactory precision may be made, but accurate determinations of E_{aa} are difficult. It is possible, however, to do this indirectly by taking two readings at different angles and by solving rather simple

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L 40810-65
ACCESSION NR: AP5008364

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equations. The authors describe a device designed to permit measurement at different angles relative to the fiber axis. The advantage of this technique, as contrasted with the optical method, is that measurements may be made at wavelengths where the phase state and morphology of the fibers have no appreciable effect on the anisotropy. The authors examined stretched and unstretched fibers of different chemical composition: polyethylene terephthalate, polypropylene, polytetrafluoroethylene, and nitron. The results proved that the technique is suitable for determining orientation. Reproducibility proved to be high. Actual measured and computed values are given in a table in the article. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (All-Union Scientific Research Institute of Synthetic Fibers)

SUBMITTED: 29Apr64 ENCL: 00 SUB CODE: MT, EM

NO REF SOV: 004 OTHER: 003

Card 2/2

SAKHAROV, I.P.; EYFER, I.Z.; BERNER, Ye.I.

High-intensity drying of rayon fiber packages in fields of high-frequency currents. Khim. volok. no.4:44-48 '65.
(MIRA 18.8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

L 43050-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AR6014386 (A,N) SOURCE CODE: UR/0137/65/000/011/I071/I071

AUTHORS: Zheleznyakova, Sh. R.; Zakatova, N. A.; Eyfer, M. Yu.; Shmar, M. F. 68

TITLE: The behavior of high-temperature and scale-resistant steels and alloys in an endothermic atmosphere with different carbon potentials B

SOURCE: Ref. zh. Metallurgiya, Abs. 11I501

REF SOURCE: Tr. Vses. n.-i. in-ta elektroterm. oborud., vyp. 1, 1965, 224-235

TOPIC TAGS: steel, alloy steel, Kh25N20S2 steel, Kh25 steel
heat resistant steel, endothermic effect, gas corrosion, metal oxidation, corrosion resistance

ABSTRACT: Fourteen types of Cr-, Cr-Ni-, and Fe-Cr-Al steels and alloys were investigated. The endothermic atmosphere had a carbon potential 0.3--0.4% C and 0.8--0.9% C. The experimental temperature was 1050C, the duration of experiments was 100, 300, 500, 700, and 1000 hours. The furnace pressure was 10--15 mm H_2O. The flow rate was 350 liter/hr. The overall depth of gaseous corrosion was determined in terms of the sum of the surface and intercrystalline corrosion. The oxidation curves are compared with the oxidation in air; the carbon potential of the latter is assumed to be 0% C. All steels and alloys investigated were subject to surface oxidation; many carbonized, and steel Kh25N20S2 showed intercrystalline corrosion. Scale resistance of the investigatod materials in an atmosphere of carbon potential 0.3--0.4 % C for short exposure is better and for long exposures worse than in an atmosphere of endogas with a carbon potential of 0.8--0.9 % C. For all exposures

Card 1/2 UDC: 669.15.018.85:620.193

ACC NR: AR6014386

(for steel Kh25 after 10 000 hr), the scale resistance in endogas is better than in air. Recommendations for the use of the investigated materials for parts and the construction of electrical furnaces are presented. I. Strebkov [Translation of abstract]

SUB CODE: 11

Card 2/2

PHASE I BOOK EXPLOITATION SOV/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [sbornik dokladov...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference), Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Brugul'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Science of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: heating, forming, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature media, die, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

[redacted]

SHEYKOV, Yo.V.; [illegible]; [illegible], D.I.

Die steel. Biul. TsNIICHM no.5:48 '61. (MIRA 14:10)
(Steel)

S/129/62/000/006/006/008
E111/E435

AUTHORS: Rustem, S.L., Candidate of Technical Sciences, Eyfir, Ye.M., Engineer, Braslavskiy, D.I., Engineer

TITLE: Stamping steels for hot stamping of parts from heat-resisting alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no.6, 1962, 44-48

TEXT: The steels studied were type 4Х3В2М2ф (ЭП1) [4Kh3V2M2F (EP1)], 4Х3В8М (ЭП2) [4Kh3V8M (EP2)], 4Х6В6С (ЭП3) [4Kh6V6S (EP3)]. Laboratory work included the determination of optimum heat treatment conditions. Mechanical properties were studied at room temperature and at 500, 600 and 650°C. Types ЭИ437Б (EI437B) and ЭИ617 (EI 617) were stamped at 1150 to 950°C on a mechanical forging press. The durability of the test steels was compared with that of type 5ХНВ (5KhNV) and 3Х2В8 (3Kh2V8) steels. Type EP1 and EP2 are recommended and were found to be more economical than 5KhNV and 3Kh2V8. Heating to 400 - 500°C is needed before use. The heat treatment recommended is air or oil quenching from 1125 ± 15°C; first tempering from

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Stamping steels for hot ...

625 - 650°C - 6 hours; second from 610 - 635°C - 4 hours. Doctor of Technical Sciences, Professor A.P.Gulyayev directed this work. There are 5 tables.

ASSOCIATION: Moskovskiy vecherniy mashinostroitel'nyy institut (Moscow Evening Machinery Institute)

Card 2/2

EYG, L. S.

USSR/Nuclear Physics - Cosmic Rays 21 Dec 49

"Experiments With the Wilson Cloud Chamber at 3,860 Meters," R. V. Sadovskiy, P. A. Cherenkov, I. V. Chuvilo, L. S. Eyg, Phys Inst imeni Lebedev, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXIX, No 6, pp 789-792

Conclusions: Multicharged particles observed by authors in subject expt must be products of nuclear fissions occurring in middle layers of the atmosphere. Submitted 3 Nov 49 by D. V. Skobel'tsyn.

PA 173T91

Eyg, L.S.

120-6-11/36

AUTHORS: Eyg, L.S., and Chaykovskiy, V.G.

TITLE: On the Working Life of Argon-$CH_2(OCH_3)_2$ Filled Counters of Radioactive Radiation (O sroke sluzh'y schetchikov radioaktivnogo izlucheniya s argon-metilalevym napolneniyem)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 49 - 54 (USSR).

ABSTRACT: The working characteristics of self-quenching counters deteriorate with age. A number of workers (Refs. 1 and 2) have noted that these changes are: increase in the threshold voltage, increase in the plateau slope, etc. Such changes are usually observed after 10^7 to 10^8 pulses and determine the working life of a counter. High-voltage self-quenching GM-counters are usually filled with an inert gas such as argon plus a small proportion of some organic vapour such as ethyl alcohol, isopentane and others. At the moment of recording of an ionising particle, dissociation of the organic molecules takes place. As a result of the irreversible breakdown (in the discharge) of the organic molecules the working characteristics of the counter change. According to the existing ideas in each discharge 10^9 to 10^{10} organic molecules are broken down. In

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On the Working Life of Argon-$CH_2(OCH_3)_2$ Filled Counters of Radioactive Radiation.

counters of normal dimensions there are 10^{20} molecules of the quenching material and therefore all these molecules ought to dissociate after 10^{10} counts. However, normal working of the counter is disturbed much earlier. In the present paper the authors give results of a mass-spectrometric analysis of the gas mixture during the working of the counter. The counters which were used for this experiment were of the usual co-axial form. The tungsten anode was 0.1 mm in diameter and had a working length of 80 mm. The cathode was in the form of a layer of copper deposited on the inner wall of the glass envelope. This system is shown in Fig.1. Counters were filled with 15% (by pressure) chemically pure $CH_2(OCH_3)_2$ and the pressure was brought up to 100 mm Hg by the addition of argon. Two groups of counters were used. The first group consisted of 60 counters and was used to study changes in the chemical composition of the filling and the characteristics of the counter as functions of the number of counts. The second group, consisting of 70 counters, was used for both the above purposes

On the Working Life of Argon-$CH_2(OCH_3)_2$ Filled Counters of Radioactive Radiation.

and the study of changes in the amplitude and the count rate as functions of the number of recorded counts. Results of these measurements are summarised in Figs. 2, 3, 4, 5 and 6. Fig.2 shows the change in the characteristics of counters as a function of the number of recorded counts. It can be seen that the threshold voltage increases by 50 to 60 volts, the length of plateau decreases by about 260 V and the plateau slope increases from 2 - 3 to 18 - 20% after 2 x 10^8 counts. Mass spectrometric analysis has led to the conclusion that the amount of dissociating organic molecules is proportional to the number of recorded counts. In the gas mixture of the counter, substances with mass numbers 16 and 28 appear, and these worsen the counter characteristics. There are reasons to suppose that the mass number 16 corresponds to oxygen which has a strong influence on counter characteristics. The ageing of the counter is connected not only with the dissociation of the organic component but also with changes in the surface of the cathode. The present experiments have shown that, with the right exploitation of argon-$CH_2(OCH_3)_2$ filled counters, they can be used for recording up to (1 to 2) x 10^8 counts.

120-6-11/36

On the Working Life of Argon-$CH_2(OCH_3)_2$ Filled Counters of Radioactive Radiation.

S.A. Vekshinskiy and M.I. Men'shikov collaborated in this work.

There are 6 figures, 2 tables and 6 references, 2 of which are Slavic.

SUBMITTED: May 3, 1957.

AVAILABLE: Library of Congress

Card 4/4

Eyg, L. S.

AUTHOR: Eyg, L.S. 120-1-12/36

TITLE: Discharge Delay in Low-voltage Halogen Counters (Zaderzhka razvitiya razryada v nizkovol'tnykh galogennykh schetchikakh)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 54 - 57 (USSR).

ABSTRACT: It is usually considered that the formation of negative ions is responsible for discharge delay and the appearance of an appreciable number of spurious counts which tend to increase the plateau slope. The primary electron appearing within the volume of the counter may "stick" to an electronegative atom thus forming a negative ion. The mobility of such an ion is smaller by two or three orders than the mobility of an electron. For this reason the ion will take a much longer time to reach the filament. Near the filament, the negative ion dissociates and a free electron appears again and initiates a discharge. The duration of the delay was measured by two methods. In the first method a triple telescope was used consisting of two high-voltage counters and a low-voltage counter between them. The delay time in the high voltage counters was estimated to be 0.1 μsec and hence one can assume that, compared with low-voltage counters, high-voltage counters have negligible delay. The high-voltage counters were connected to a coincidence

Card1/3

circuit and the output from this circuit was used to produce the horizontal deflection of a CRO. The pulse from the low-voltage counter was used to produce the vertical deflection of the CRO. In this way, the delay could be determined visually. This method is not very accurate and introduces subjective errors. The second method is more accurate and is based on the measurement of double coincidences with change in the resolving time of the coincidence scheme (Ref.4). The circuitry is shown in Fig.2. The pulses from a high voltage counter were fed into one of the channels of the coincidence scheme, and the pulse from the low-voltage counter was fed into the second channel. The pulse length in the high-voltage channel could be varied between 2 and 22 μsec. At a given voltage, the number of coincidences was measured as a function of the pulse length in the high-voltage channel. This dependence is shown in Fig.3. As the pulse length in the high-voltage channel is increased the number of coincidences also increases. At the pulse length comparable with the delay time of the low-voltage counter, the slope of the curve suddenly changes (Fig.3). It is clear from Fig.3 that in counters having cathodes 18 mm in diameter, the delay is greater than in counters with cathodes 10 mm in diameter.

Discharge Delay in Low-voltage Halogen Counters.

This is explained by the fact that in the bigger counter the negative ion has to cover a larger distance between the moment of its formation and the moment when it loses the electron. At a nominal voltage of 400 V, low-voltage counters can be used in coincidence schemes having resolving times not less than 7 to 10 μsec. These experiments have shown that in the range 360 - 500 V, the delay time in the low-voltage counters is as follows:

Cathode Diameter	Discharge Delay
18 mm	12 to 4 μsec
10 mm	9 to 2 μsec.

There are 4 figures and 4 references, 3 of which are Slavic.

SUBMITTED: May 18, 1957.

AVAILABLE: Library of Congress.

Card 3/3

EYG, L. S.

SOV/120-58-5-13/32

AUTHORS: BRISH, A.A., Dmitriyev, A.B., Kosmarskiy, L.N., Sachkov, Yu.N., Sbitnev, Ye.A., Kheyfets, A.B., Tsitsiashvili, S.S., and Eyg, L.S.

TITLE: A Vacuum Spark Switch (Vakuumnyye iskrovyye rele)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 53-58 (USSR)

ABSTRACT: The device consists of an evacuated glass envelope which contains 3 electrodes (see the general diagram of Fig.1). The principal discharge gap comprises a comples cathode consisting of two electrodes which form an auxiliary discharge gap. The two cathode electrodes are separated by means of a fine mica plate; when a triggering pulse is applied, a discharge is formed on the surface of the mica. Fig.2 shows 6 alternative solutions of the electrode systems of vacuum spark switches. Fig.3 shows photographs of actual switches (tubes 4,5,6 and 7) and photographs of 3 thyratrons (tubes 1, 2 and 3) for the purpose of comparison. The basic parameter of a switch is its anode voltage V_a , its operating current I and its triggering breakdown voltage V . The anode operating voltages up to 20 kV could be obtained with a discharge gap of 1 mm. The values of the

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A Vacuum Spark Switch

discharge current are determined primarily by the external parameters of the circuit in which the switch is employed. The currents can be very high since the tube is "extinguished" at a current of about 20 A. The energy required for the initiation of the main-gap breakdown is very small. Thus the switch can be triggered by the energy stored in a capacitance of about 5 , but the triggering voltage should be at least 1500 V. The switch is subject to some time delays. The overall delay is $T = t_1 + t_2 + t_3$, where t_1 is the time between the commencement of the triggering pulse and the inception of the trigger gap discharge; t_2 is the time lag between the commencement of the auxiliary discharge and the inception of the main-gap discharge, and t_3 is the formative time of the main gap discharge. These time delays are illustrated graphically in Fig.4. In actual tubes the formative times of the main discharge were of the order of 0.03 us. The electrical characteristics of a spark

A Vacuum Spark Switch

switch are affected by the number of switchings performed. This is illustrated in Fig. 11, which shows the ignition voltage of the auxiliary gap as a function of the number of switchings N : It is seen that the voltage decreases with N . The paper contains 11 figures and no references.

SUBMITTED: November 15, 1957

6702

24/2/30 SOV/109-4-2-22/35

AUTHORS: Granovskiy, V.L., Lukyanov, S.Yu., Spivak, G.V. and Sirotenko, I.G.

TITLE: Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 2, pp 1339 - 1358 (USSR)

Card 1/14

Ey a, L.S.

I.M. Podgornyy and M.G. Koval'skiy - "New Data on X-ray Radiation During Pulse Discharges".

V.A. Ekshtut and M.M. Sukhorukova dealt with the investigation of the neutron radiation in powerful gas discharges in chambers with conducting walls.

M.A. Bortner et al. - "Investigation of the Gas Discharge in a Conical Chamber".

S.M. Osovets et al. - "A Turn of Plasma in Transverse Magnetic Field".

I.G. Kesayev - "Data on the Division of a Cathode Spot on Mercury in a Low-pressure Arc" (see p 1289 of the journal).

A.B. Bokhan (England) - "A New Theory of the Cathode Spot" (see p 1295 of the journal).

L.M. Biryukova - "Positive Column in a Hydrogen Discharge With Stationary and Pulse Loads".

I.G. Maksimovich and A.A. Lebid - "Current Distribution on the Surface of Electrodes in Electric Pulse Discharges".

Yu.S. Sin - "Some Properties of Gas Discharges in Low-voltage in Halogen Counters".

G.V. Gluteva and V.L. Granovskiy - "Comparison of the Initial De-ionization in the Isotopes of Hydrogen (H and D)".

L.A. Abol'ntsa communicated some results on the pre-breakdown current pulses at low pressures.

M.Ye. Vasil'yeva and A.A. Zaytsev - "Charge-density oscillation Waves in Cylindrical Plasma".

I. Pekárek of Czechoslovakia communicated some information on the wave-like phenomena in gas-discharge plasma.

R.G. Brezhner dealt with the problem of the determination of the energy of ion ions in pulse discharges.

B.B. Kadomtsev - "Convection Instability of a Plasma String".

F.I. Kondrashkin and V.D. Shafranov - "Theory of a High-temperature Plasma String".

The fifth section was presided over by M.A. Leontovich and dealt with high-frequency currents in gases. The following papers were read:

V.Ye. Golant - "Formation of Ultra-high Frequency Pulse Discharge in Inert Gases".

G.K. Paterok - "Influence of the Boundary Conditions on the Formation and Maintenance of High-frequency Discharges".

P.S. Bulkin et al. - "Investigation of a Self-maintained Ultra-high Frequency Pulse Discharge and the Process of its Development".

S.M. Zaytsenker and G.A. Sinitsyn - "Some Results of the Investigation of the Formation of Low-pressure High-frequency Discharges".

G. Herman (USA) - "Conductivity of Weakly Ionized Plasma".

A.A. Kuznetsov - "The Conditions of Transition From High-frequency Corona Discharge at Atmospheric Pressure".

V.A. Golant - "The Relationship Between the Characteristics of The Ultra-high Frequency Current and the Direct Current in Gas Discharges".

R.R. Lagoyter analyzed the conductivity of the disintegrating plasma in the window of a resonance discharge tube.

A.M. Lazitskiy and L.P. Shabunin dealt with the applicability of the probe method to high-frequency discharges (see p 1238 of the journal).

The paper by V. Ye. Mitsuk et al. was devoted to the investigation of the ultra-high frequency plasma by means of the Stark effect.

G.S. Solntsev et al. dealt with the problem of electric fields in a high-frequency discharge at low pressures.

Ya. Radenov of Rumania read a paper entitled "High-frequency Discharges in Methane".

The work of the sixth section was devoted to the problems of plasma and its radiation; the section was presided over by V.A. Fabrikant. The following papers were read:

Yu.M. Kagan - "Probe Method of Plasma Investigation".

V.I. Drozdov - "Oscillographic Measurements in Plasma".

V.A. Simonov and A.G. Hilchkin - "Investigation of the Movement of Plasma by Means of a Mass Spectrometer of

9.4100

69084

S/120/60/000/01/024/051
E192/E382

AUTHORS: Lobov, S.I., Tsukerman, V.A. and Eyg, L.S.

TITLE: A Controlled Low-pressure Discharge Tube

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 89 - 92 (USSR)

ABSTRACT: The tube described is a triode in which the main gap operates on the left-hand side of the Paschen curve, while the control gap operates at the minimum of the curve. In this way, it was possible to obtain a high breakdown of the main gap (of the order of 15 kV) and a low breakdown for the control gap (about 500 V). The discharge tube is illustrated in the diagram of Figure 1 and its operating circuit is shown in Figure 2. The tube is filled either with argon or helium at pressures of 0.2 to 0.7 mm Hg and has a diameter of 27 mm and an overall length of 80 mm. It consists of: an anode 1 ; a cathode 2 ; an auxiliary electrode 3 (Figure 1). The auxiliary or control electrode is separated from the anode by the base electrode or the cathode. The base electrode contains an aperture in its

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A Controlled Low-pressure Discharge Tube

centre and a priming discharge passing a current of 10 μA is maintained between the auxiliary electrode and the base. The polarity of this discharge is such that the base electrode receives positive ions. Since a positive voltage is applied to the anode, the ions cannot pass through the aperture. A negative control pulse is applied to the auxiliary electrode.. This results in the "reversal" of the auxiliary discharge and leads to the breakdown of the auxiliary gap. The electrons produced in this discharge pass through the aperture and initiate the main discharge between the base electrode and the anode. A number of test tubes based on the above principle were produced. These were tested at voltages ranging from 12 - 14 kV. It was found that the tubes can operate at voltages ranging from 2 - 10 kV. The tubes can be triggered by a pulse having an amplitude of 2 kV with a front slope of 5 kV/μs. The energy necessary for the ignition of the main gap is about 10^{-5} joules. The lag between the application of the

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S/120/60/000/01/024/051
E192/E382

A Controlled Low-pressure Discharge Tube

control pulse and the appearance of the main discharge is about 0.02 to 0.04 μs; at lower anode voltages the time lag can increase to 0.1 μs. The tubes can be employed to switch currents of up to 5 kA. Under these conditions, they are capable of several thousand operations without a serious deterioration. The authors express their thanks to L.G. Sinel'nikova for taking part in the preparation and the measurement of the tubes. There are 4 figures and 3 Soviet references.

SUBMITTED: January 14, 1959

Card 3/3

L 22062-66 EWT(1)
ACC NR: AR6005188 SOURCE CODE: UR/0058/65/000/009/G017/G018

AUTHORS: Sinel'nikova, L. G.; Eyg, L. S.

80
B

TITLE: Pulsed breakdown of certain diatomic and inert gases in a wide range of pressure variation

SOURCE: Ref. zh. Fizika, Abs. 9G145

REF. SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 63-69

TOPIC TAGS: dielectric breakdown, diatomic molecule, inert gas, gas discharge, pressure effect, gas ionization

TRANSLATION: (21) The authors investigated the dependence of the static and pulsed breakdown voltage U_{br} on the type and pressure of gas (H_2, He, N_2, O_2, Ne, Ar) of a dielectric (mica, ceramic, glass) in a discharge gap, and the artificial ionization of gas by radioactive material. On the basis of the results the following conclusions are drawn. 1. Whereas under static conditions a discharge gap of length

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ACC NR: AR6005188

1 -- 3 mm breaks down in any investigated gas at voltages 200 -- 500 v, in the pulsed mode U_{br} is increased to 3 -- 5 kev for a pulse rise 1.5 kev/μsec, depending on the gas, and to 10 -- 15 kev at a rise of 93 kev/μsec. 2. Introduction of a dielectric into the discharge gap leads to a certain lowering of the pulsed and static voltage of the breakdown and to a decrease in their scatter. 3. Additional ionization of the discharge gap does not influence the breakdown in the static mode, but in the pulsed mode U_{br} drops by 4 -- 6 times, and its scatter by a factor 10 -- 20, depending on the type of gas and pressure. N. Olendzkaya

SUB CODE: 20

Card MJS 2/2

S/137/62/000/002/033/14
A006/A101

AUTHORS: Khonina, O. I., Eygales, M. A.

TITLE: On the effect of soda and sodium silicate on flotation of zircon with oleic acid

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 9-10, abstract 2G66 ("Tr. Vses. n.-i. in-ta mineral'n. syr'ya," 1961, no. 6, 148-157)

TEXT: Pure zircon crystals were used as investigation material. They were crushed to a size of -0.15 to +0.053 mm and -0.053 to +0.02 mm. Oleic acid was used as a collector for zircon flotation. High (90.4 - 95.4%) extraction of zircon was reached at very considerable consumption of oleic acid (950 - 1,500 g/t). The authors studied the speed of zircon particle adhesion to an air bubble in the presence of oleic acid. Considerable concentrations of oleic acid are required for hydrophobization of the surface of zircon that was not activated during the crushing process. The authors studied the effect of two regulators widely used in practice, i. e. soda and commercial Na silicate, on flotation and kinetics of zircon particle adhesion to an air bubble. It is shown that the

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depressing effect of soda and sodium silicate is connected mainly with the reversible sorption of dissociation products and hydrolysis of regulators on the free surface microsections. Hydrophilization of the surface entails a higher stability of the hydrate layer and inhibits the adhesion of mineral particles to air bubbles. It is supposed that these regulators do not affect sorption of the collector by the zircon surface. At high concentrations both the regulators affect foam formation. Soda reduces foam formation up to its complete disappearance; sodium silicate changes the nature of foam by reducing mineralization of air bubbles and their strength. The authors established the different intensity of zircon depressing with soda and sodium silicate, depending on the particle size. There are 9 references.

A. Shmeleva

[Abstracter's note: Complete translation]

Card 2/2

MOSHCHUK, I.D.; EYGEL', I.Yu.

Quality of literature produced by scientific and engineering railroad societies. Vest. TSNII MPS 17 no.6:59-61 S '58.
(Railroads--Societies, etc.) (MIRA 11:11)

POVOROZHENKO, Vladimir Vasil'yevich, prof., doktor tekhn.nauk; KOSTENKO, Ivan Georgiyevich, kand.tekhn.nauk; MAKHOTKIN, Nikolay Aleksandrovich, inzh.; RUMYANTSEV, Sergey Mikhaylovich, inzh.; PARAKHONSKIY, Boris Mikhaylovich, kand.ekon. nauk; SOLOV'YEV, Ivan Fomich, kand.tekhn.nauk; BAKAYEV, V.G., doktor tekhn.nauk, red.; CHERNOMORDIK, G.I., doktor tekhn.nauk, nauchnyy red.; IRKHIN, A.P., kand.tekhn.nauk, nauchnyy red.; KUDRYAVTSEV, A.S., doktor ekon.nauk, nauchnyy red.; GLADTSINOV, B.N., kand.tekhn.nauk, nauchnyy red.; ZYGEL', I.Yu., red.; LAVRENOVA, N.B., tekhn.red.

[Transportation in the U.S.S.R.] Transport SSSR. Pod obshchei red. V.G.Bakaeva. Moskva, Izd-vo "Morskoi transport," 1960. 536 p. (MIRA 13:7)
(Transportation)

LEBEDEV, Mikhail Nikolayevich, prof.; SHADRIN, Nikolay Aleksandrovich, prof.; KRYUKOV, Georgiy Nikolayevich, dotsent; MOLLOT, Aleksandr Georgiyevich, dotsent; PETRUKOVICH, A.A., inzh.; PAL'CHUN, P.S., inzh., retsenzent; SOKOLOV, F.G., inzh., retsenzent; EYGEL', I.Yu., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Railroad surveying and construction] Izyskaniia i postroika zheleznykh dorog. By M.N.Lebedev i dr. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia. Pt.2. [Railroad construction] Postroika zheleznykh dorog. 1961. 319 p. (MIRA 14:8)
(Railroads--Construction)

BESHKETO, Vsevolod Kupriyanovich, kand. tekhn. nauk; GRIDASOV, Nikolay Ardreyevich, inzh.; KUZ'MIN, Aleksandr Nikolayevich, inzh.; PAVLOV, Aleksandr Anatol'yevich, inzh.; EYGEL', I.Yu., inzh., red.; MAKUNI, Ye.V., tekhn. red.

[Specialized unloading points] Spetsializirovannye bazy vygruzki. [By] V.K.Beshketo i dr. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1962. 78 p. (MIRA 15:3)

(Loading and unloading)

Eygel', L. Ya.

AID P - 3540

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 4/27

Author : Eygel', L. Ya., Eng.

Title : Reduction of delay in the reading of electric gas analyzers

Periodical : Energetik, 11, 8-9, N 1955

Abstract : The author finds that the delay in readings of gas analyzers of modern high capacity boilers sometimes is as much as 20 to 25 minutes. To improve this situation, certain electric power stations introduce on the boiler shunts consisting of 3" in diameter tubes to reduce the delay in the flow of gases. The author describes in detail the installation of the new type of analyzers. Two drawings.

Institution : None

Submitted : No date

KONOVALOV, Vitaliy Sergeyevich, inzhener; DLUGACH, Boris Abramovich, kandidat tekhnicheskikh nauk; GRINEVICH, G.P., professor, retsenzent; HYGEL', I.Yu., inzhener, redaktor; UVAROVA, A.F., tekhnicheskiy-redaktor

[Work practices of heavy machinery incustry railroad shops] Opyt raboty zheleznodorozhnykh tsekhov zavodov tiazhelogo mashinostroeniia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 129 p. (MLRA 9:12)
(Railroads)
(Machinery industry)

[redacted]

EYGEL', L.Ya., inzhener.

Defects of the electric gas analyser of the "Sevzapteplokontrol'" Plant. Energetik 4 no.1:12-14 Ja '56. (MLRA 9:4)
(Gases--Analysis)

EYGEL', L.Ya., inzhener.

Improving the operation of GMUK-21 electric gas analyzers. Energetik 4 no.12:7-8 D '56. (MLRA 10:1)
(Gases--Analysis)

AUTHOR: Eygel', L.Ya. 91-58-5-30/35

TITLE: On the Work of the Consumption Meters DP-612 (O rabote raskhodomerov DP-612)

PERIODICAL: Energetik, 1958, Nr 5, p 36 (USSR)

ABSTRACT: The indications of the water-meter and the steam-meter in boilers often do not correspond. At high load, the steam pressure in front of the diaphragm is lowered, and the meter of steam consumption shows higher values than at a lower load. The indications must be multiplied with certain factors, depending on the parameters of the boiler.

AVAILABLE: Library of Congress

Card 1/1 1. Steam - Gages 2. Water - Gages

EYGEL', L.Ya.

96-58-2-21/23

AUTHORS: Anan'in A.V., , Kormer, I.M. and Eygel', L.Ya., Engineers

TITLE: Measurement of the Surface Temperature of Thermal Insulation on Pipes by Means of Resistance Thermometers (Izmereniye temperatury poverkhnostey teploizolyatsii truboprovodov pri pomoshchi termometrov soprotivleniya)

PERIODICAL: Teploenergetika, 1958, No 2, pp 93-94 (USSR)

ABSTRACT: Heat Losses in power stations are higher than they should be mainly because systematic checking of thermal insulation is made difficult by the absence of convenient and accurate methods of measurement. In power stations, the practicable method of assessing thermal insulation is based on measurements of its surface temperature and for many years surface thermocouples have been used for this purpose. The temperature distribution round the surface of the insulation on a horizontal steam pipe is shown in Fig.1. This indicates that measurements made at a single point cannot represent the true mean temperature. The temperature distribution is especially distorted when the insulation is defective. Since portable instruments of high accuracy have to be used with surface thermocouples, alternative use of resistance thermometers has been found advantageous.

Card1/2 The main component of the equipment developed by ORGRES, which

Measurement of the Surface Temperature of Thermal Insulation on Pipes by Means of Resistance Thermometers

is illustrated diagrammatically in Fig.2, is a small, exposed resistance thermometer. Photographs of the resistance thermometer and portable measuring bridge are shown in Fig.3. The heat capacity of the resistance thermometer causes some error when it is applied to insulation. As indicated in Fig.4, heat flowing through the insulation cannot compensate for that lost to the thermometer. This error was estimated by comparison with a known instrument. The magnitude of the correction depends on the difference between the temperature measured by the instrument and the ambient air temperature and is determined from the graph given in Fig.5.
Experience shows that by increasing the dimensions of the measuring element, the necessary correction is reduced and a single measurement may be made to obtain the mean temperature. Therefore, resistance thermometers have been made in the form of a tape, as shown in Fig.6. This is clipped around the insulated pipe. A comparison between average temperatures obtained in this way and by conventional methods is tabulated and good agreement is claimed.
There are 6 figures,1 table and 2 Russian references.

Card2/2

1. Temperatures-Measurement 2. Pipes-Insulation

25(6) SOV/91-59-5-22/27

AUTHOR: Eygel', L.Ya.

TITLE: On Making Thermal Measurements (O proizvodstve teplovykh izmereniy)

PERIODICAL: Energetik, 1959, Nr 5, p 37 (USSR)

ABSTRACT: The article contains answers to the four questions asked by Shushpanov, from Serdobsk, Penzenskaya oblast', such as: how to use a nomogram contained in the book by V.P. Preobrazhenskiy "Thermotechnical Measurings and Instruments", published in 1946; what influence have changes of temperature upon the precision of band automatic scales for coal; how can one purchase the laboratory heat-measuring instruments; and how the differential manometer DP-278 installed for a lowered water level can be checked?

Card 1/1

SOV/91-59-6-29/33

AUTHOR: Eygel', L.Ya.

TITLE: On Measures for Preventing Damage to Manometers

PERIODICAL: Energetik, 1959, Nr 6, p 38 (USSR)

ABSTRACT: This is a reply to reader V.I. Yeremeyev from Novosibirsk. If the manometer experiences changes in pulsating pressure, it should be placed not on the machine itself, but rather on a vibration-free place. The impulse line to the manometer should be provided with a volume (a piece of large pipe) and a throttle (0.5-1 mm in diameter). The manometer scale must have at least a 50% margin, to enable the manometer to use a stronger spring.

Card 1/1

EYGEL', L.Ya., inzh.; ANAN'IN, A.V., inzh.

Portable differential mercury manometer with steel pipes.
Energetik 8 no.9:9-10 S '60. (MIRA 14:9)
(Manometer)

EYGEL', L.Ya.

Concerning the operation of pressure gauges on pulsating pressures. (MIRA 14:12)
Energetik 9 no.11:35 N '61.
(Pressure gauges)

EYGEL', L.Ya.

Concerning the manufacture of mercury barometers in an electric power plant. Energetik 10 no.4:33 Ap '62. (MIRA 15:4)
(Barometer)

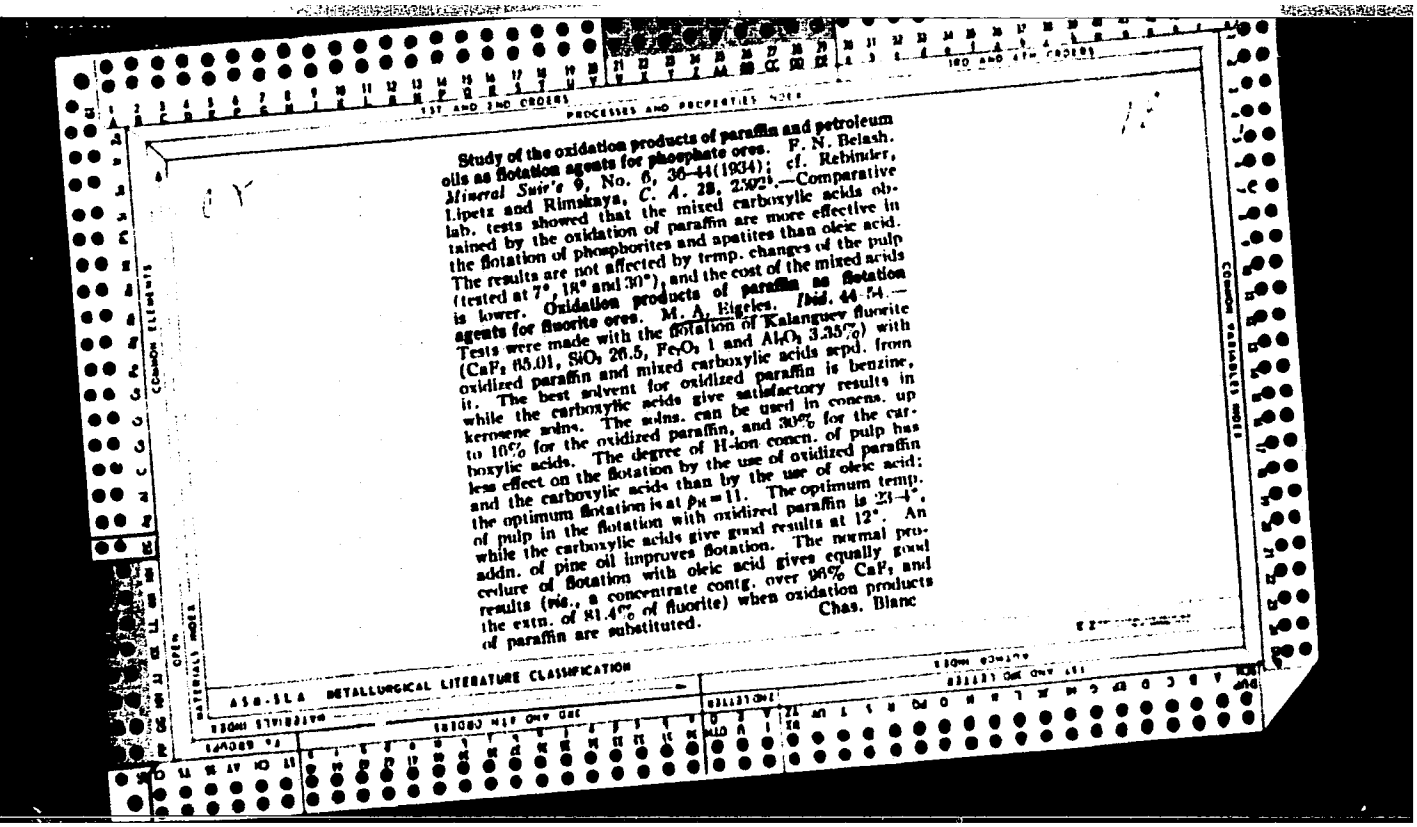
EYGEL', L.Ya.

Devices for analyzing the chemical composition of the flue gases of boiler furnaces. Prom. energ. 17 no.11:60 N '62. (MIRA 15:12)
(Furnaces)

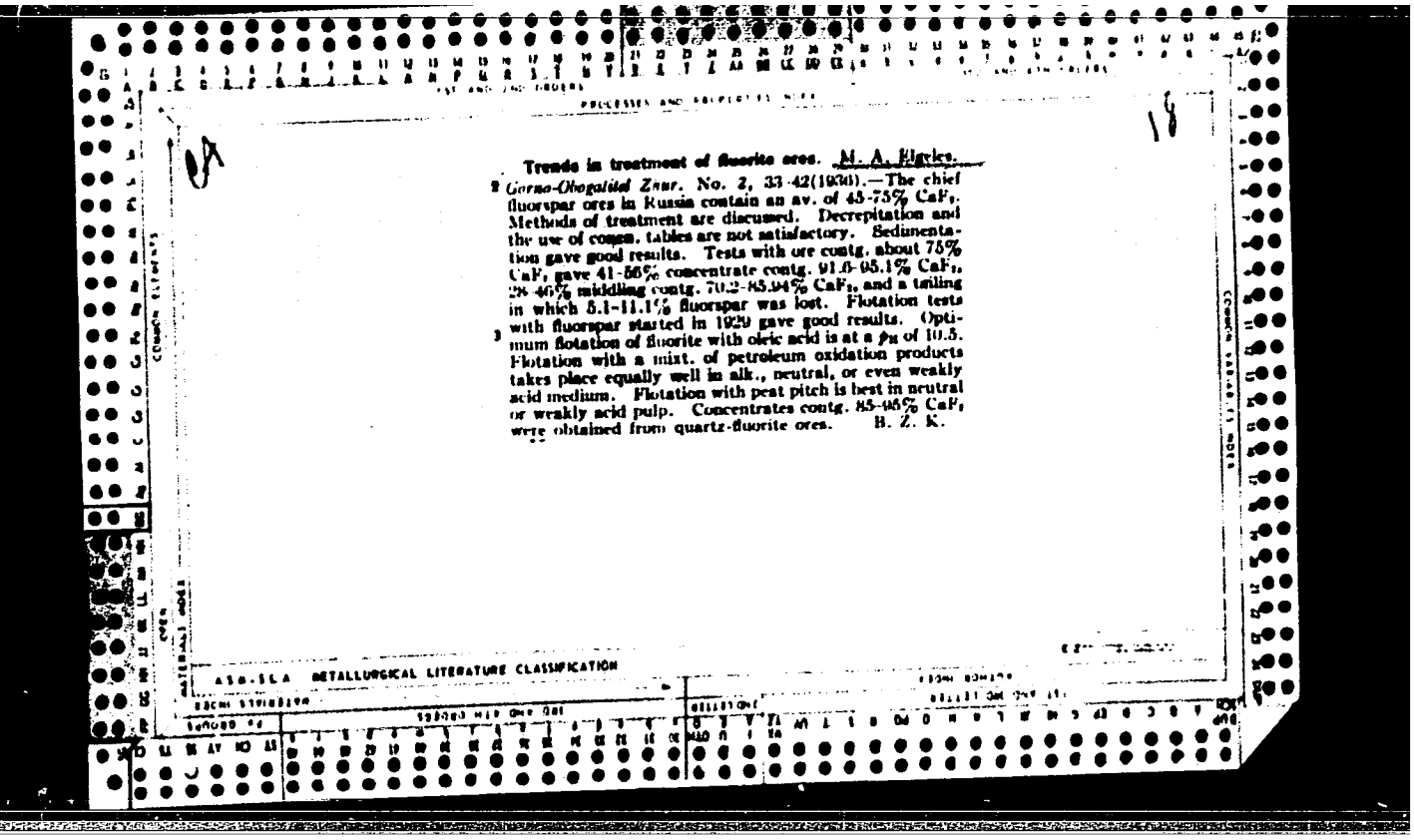
ZABOLOTNAYA, N.P.; NOVIKOVA, M.I.; SHATSKAYA, V.T.; GINZBURG, A.I., glavnyy red.; POLYAKOV, M.V., zam. glavnogo red.; APEL'TSIN, F.R., red.; GRIGOR'YEV, V.M., red.; RODIONOV, G.G., red.; TROKHACHEV, P.A., red.; FAGUTOV, V.P., red.; KHRUSHCHOV, N.A., red.; CHERNOSVITOV, Yu.L., red.; SHMANENKOV, I.V., red.; SHCHERBINA, V.V., red.; EYGELES, M.A., red.; KOLOSHINA, T.V., red. izd-va; BYKOVA, V.V., tekhn. red.

[Tungsten-molybdenum-tin-beryllium deposits and their formation]. Vol'fram-molibden-olovo-berillievye mestorozhdeniia i usloviia ikh obrazovaniia. Moskva, Gosgeoltekhizdat, 1962. 94 p. (Geologiia mestorozhdenii redkikh elementov, no.18). (MIRA 16:4)

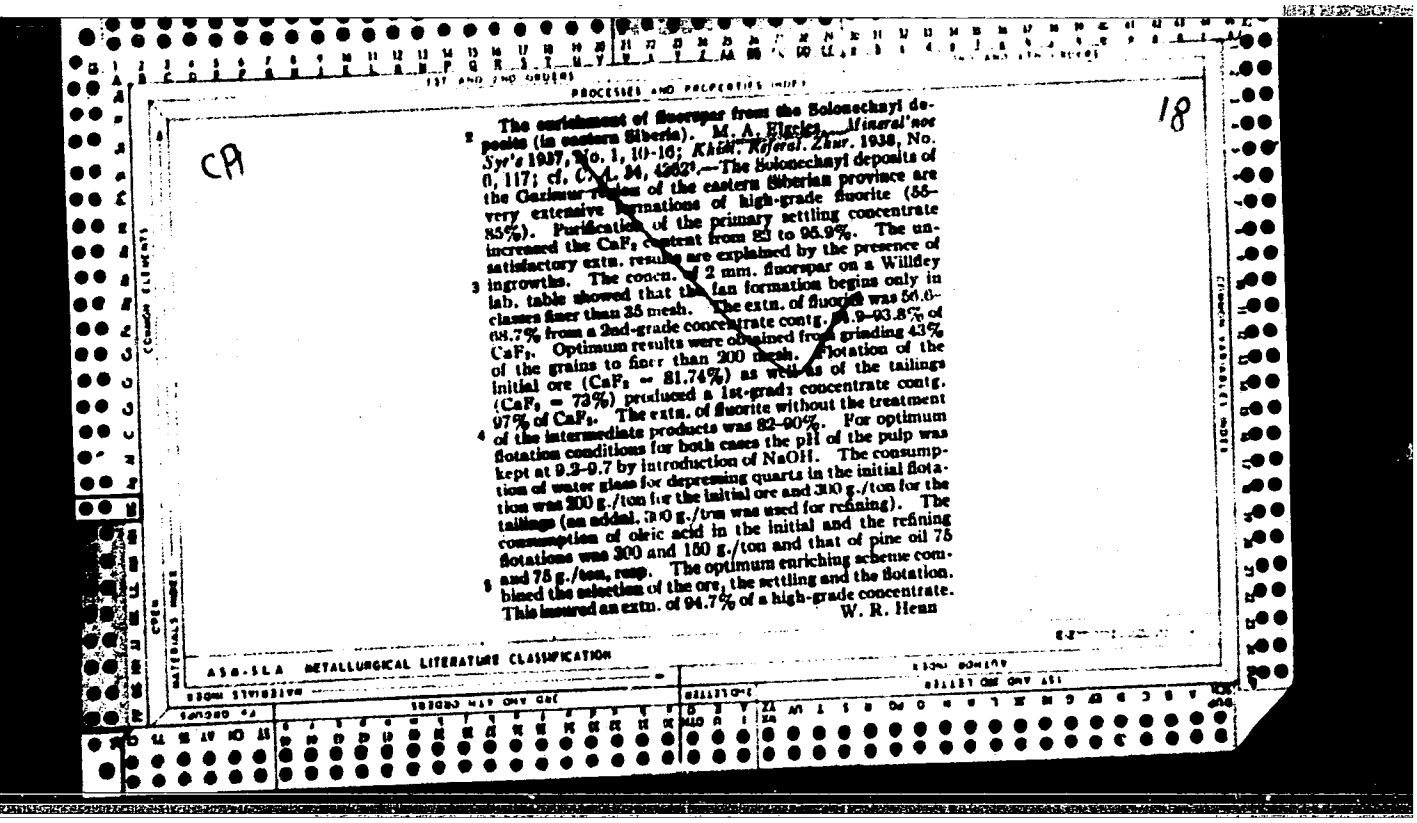
(Metals, Rare and minor)



Study of the oxidation products of paraffin and petroleum oils as flotation agents for phosphate ores. P. N. Belash. *Mineral Suir's* 9, No. 6, 36–44(1934); cf. Rebinder, Lipetz and Rimskaya, *C. A.* 28, 2502⁵.—Comparative lab. tests showed that the mixed carboxylic acids obtained by the oxidation of paraffin are more effective in the flotation of phosphorites and apatites than oleic acid. The flotation of phosphorites and apatites than oleic acid. The results are not affected by temp. changes of the pulp (tested at 7°, 18° and 30°), and the cost of the mixed acids is lower. Oxidation products of paraffin as flotation agents for fluorite ores. M. A. Eigeles. *Ibid.* 44–54.—Tests were made with the flotation of Kalanguy fluorite (CaF_2 65.01, SiO_2 26.5, Fe_2O_3 1 and Al_2O_3 3.35%) with oxidized paraffin and mixed carboxylic acids sepd. from it. The best solvent for oxidized paraffin is benzine, while the carboxylic acids give satisfactory results in kerosene solns. The solns. can be used in concns. up to 10% for the oxidized paraffin, and 30% for the carboxylic acids. The degree of H-ion concn. of pulp has less effect on the flotation by the use of oxidized paraffin and the carboxylic acids than by the use of oleic acid; the optimum flotation is at $p_H = 11$. The optimum temp. of pulp in the flotation with oxidized paraffin is 23–4°, while the carboxylic acids give good results at 12°. An addn. of pine oil improves flotation. The normal procedure of flotation with oleic acid gives equally good results (viz., a concentrate contg. over 96% CaF_2 and the extn. of 81.4% of fluorite) when oxidation products of paraffin are substituted. Chas. Blanc



Trends in treatment of fluorite ores. M. A. Hlavko.
Gorno-Obogatitel Znur. No. 2, 33-42(1930).—The chief fluorspar ores in Russia contain an av. of 45-75% CaF_2. Methods of treatment are discussed. Decrepitation and the use of concn. tables are not satisfactory. Sedimentation gave good results. Tests with ore contg. about 75% CaF_2 gave 41-66% concentrate contg. 91.6-95.1% CaF_2, 28-46% middling contg. 70.2-85.94% CaF_2, and a tailing in which 5.1-11.1% fluorspar was lost. Flotation tests with fluorspar started in 1929 gave good results. Optimum flotation of fluorite with oleic acid is at a p_H of 10.5. Flotation with a mixt. of petroleum oxidation products takes place equally well in alk., neutral, or even weakly acid medium. Flotation with peat pitch is best in neutral or weakly acid pulp. Concentrates contg. 85-96% CaF_2 were obtained from quartz-fluorite ores. B. Z. K.



CA

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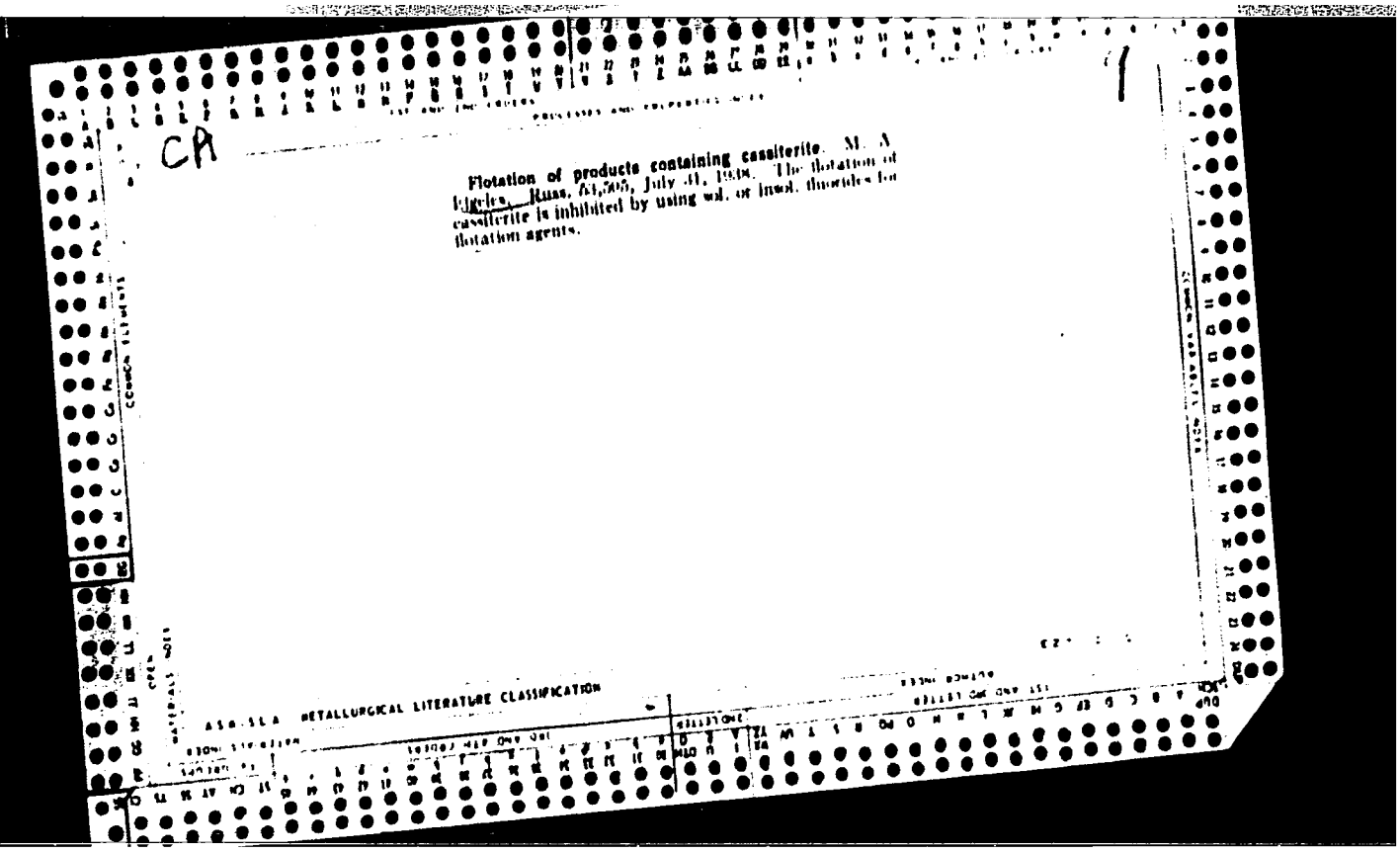
The enrichment of fluorspar from the Bolonechayi deposits (in eastern Siberia). M. A. Figurin. *Mineral'noe Syr'e* 1937, No. 1, 10-16; *Khim. Referat. Zhur.* 1938, No. 0, 117; cf. C. A. 34, 4362⁹.—The Bolonechayi deposits of the Gazimur region of the eastern Siberian province are very extensive formations of high-grade fluorite (55–85%). Purification of the primary settling concentrate increased the CaF_2 content from 85 to 95.9%. The unsatisfactory extn. results are explained by the presence of ingrowths. The concn. of 2 mm. fluorspar on a Willfley lab. table showed that the fan formation begins only in classes finer than 35 mesh. The extn. of fluorite was 56.0–68.7% from a 2nd-grade concentrate contg. 91.9–93.8% of CaF_2. Optimum results were obtained from grinding 43% of the grains to finer than 200 mesh. Flotation of the initial ore (CaF_2 = 81.74%) as well as of the tailings (CaF_2 = 73%) produced a 1st-grade concentrate contg. 97% of CaF_2. The extn. of fluorite without the treatment of the intermediate products was 82–90%. For optimum flotation conditions for both cases the pH of the pulp was kept at 9.2–9.7 by introduction of NaOH. The consumption of water glass for depressing quartz in the initial flotation was 200 g./ton for the initial ore and 300 g./ton for the tailings (an addnl. 300 g./ton was used for refining). The consumption of oleic acid in the initial and the refining flotations was 300 and 150 g./ton and that of pine oil 75 and 75 g./ton, resp. The optimum enriching scheme combined the selection of the ore, the settling and the flotation. This insured an extn. of 94.7% of a high-grade concentrate.

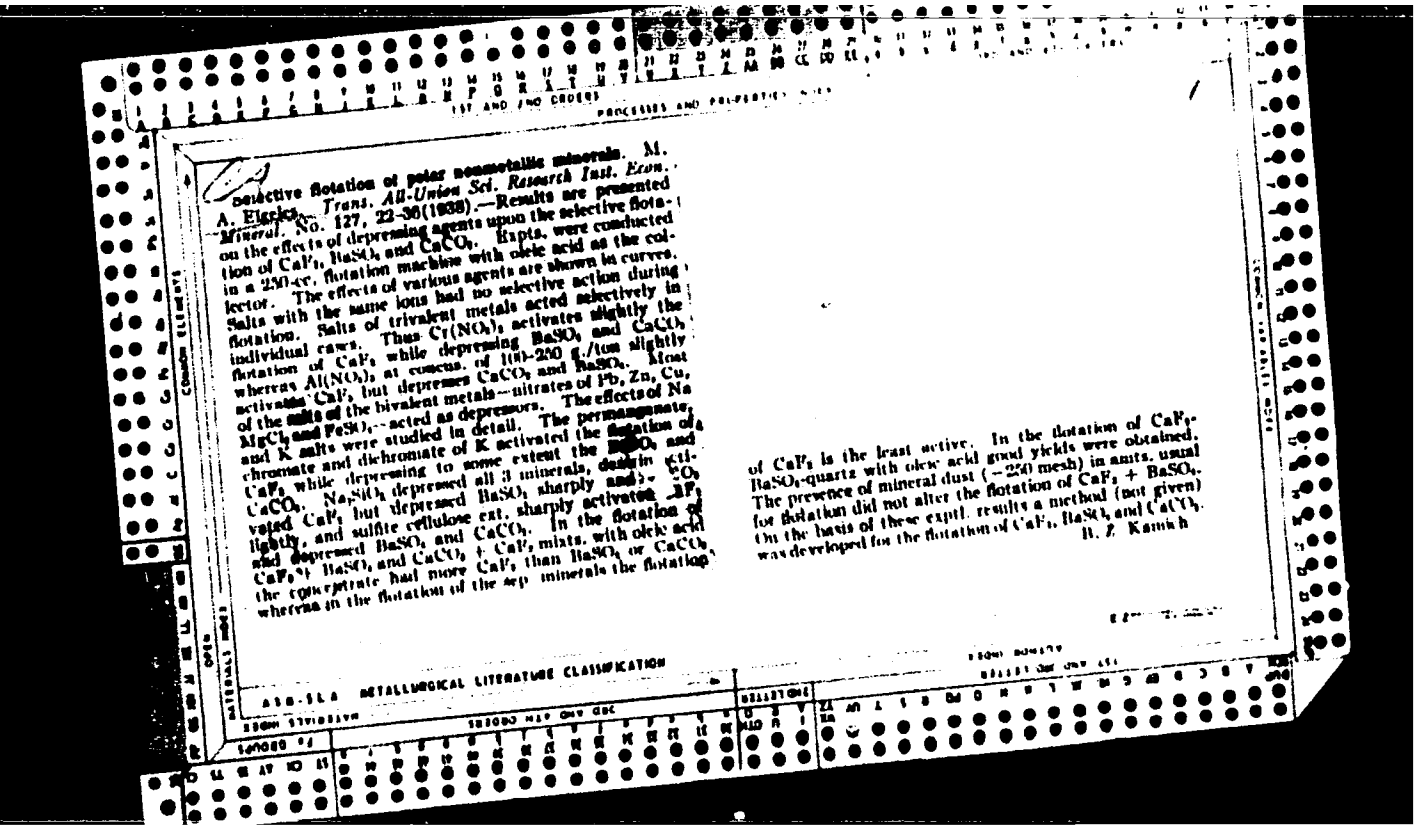
W. R. Henn

PROCESSES AND PROPERTIES INDEX

The influence of the components of a mixture of minerals on the flotation of the individual minerals. M. A. [illegible] *Tsvetnye Metally* [illegible] 3, No. 12, 24 [illegible]; *Chem. Zentr.* 1938, II, [illegible]. The flotation of mixts. of fluorite, baryta and calcite was studied. The influence which the minerals of the mixt. exerted on the flotation of any particular one of them was held to be due to the action of ions from the minerals which had gone into soln. M. G. Moore

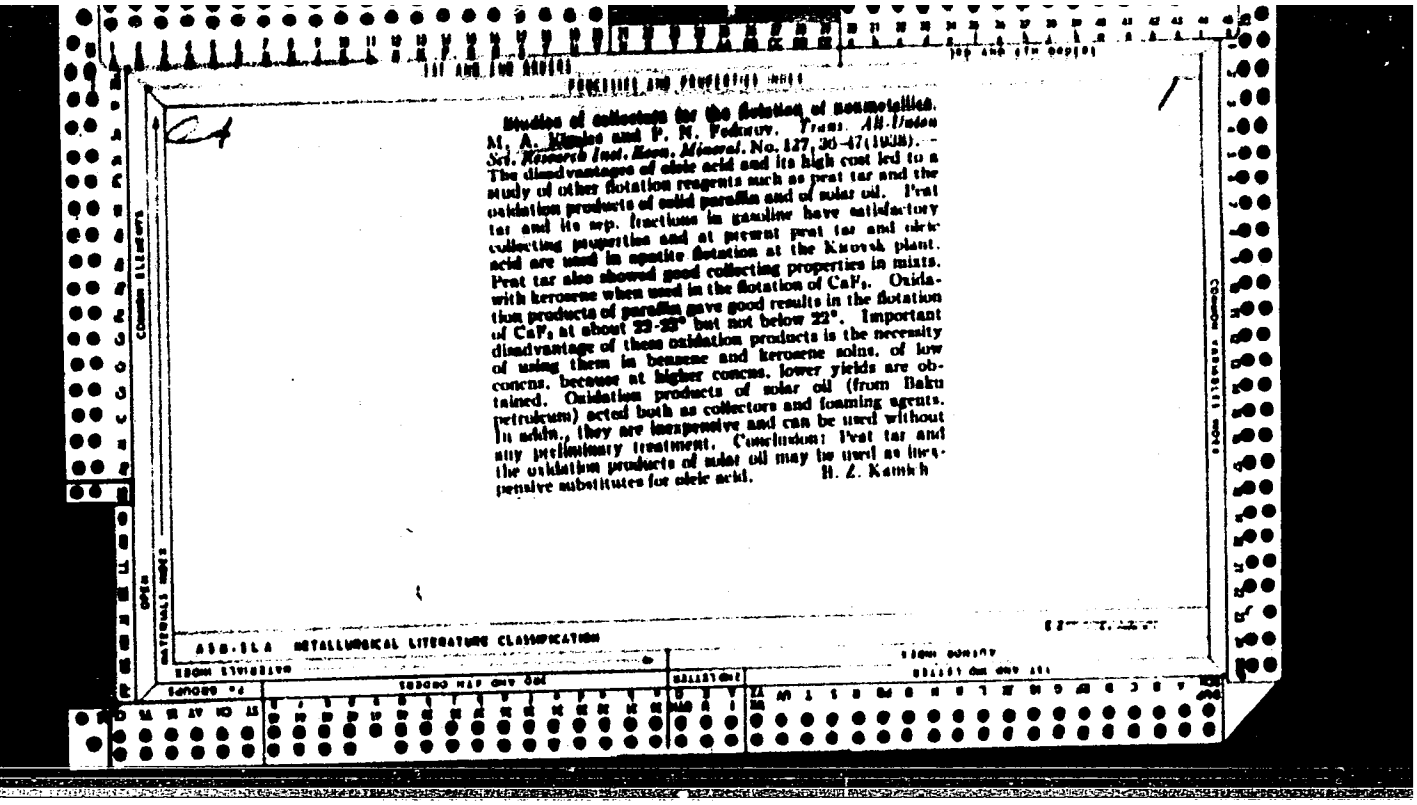
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



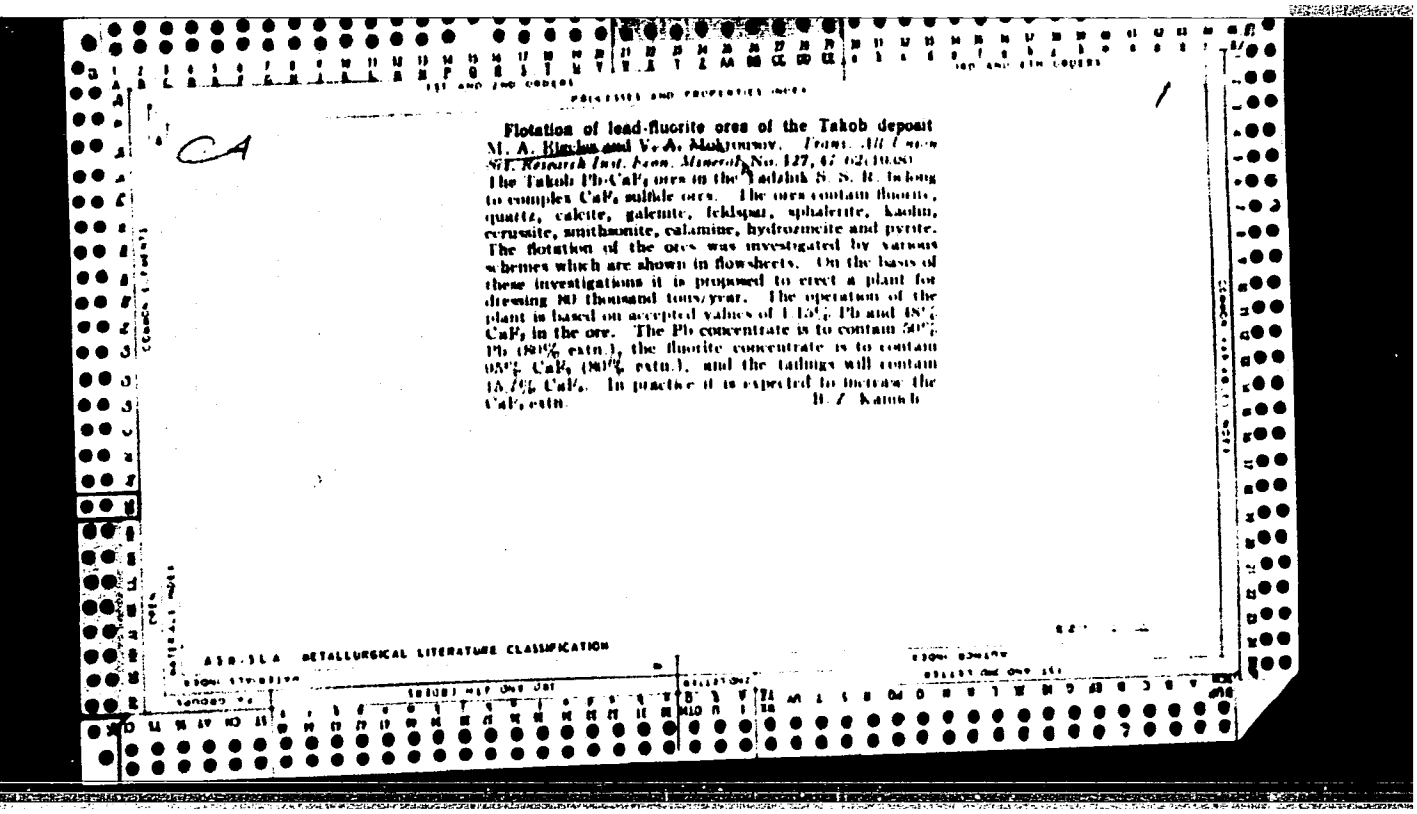


Selective flotation of polar nonmetallic minerals. M. A. Elgiza. *Trans. All-Union Sci. Research Inst. Econ. Mineral.*, No. 127, 22-36(1938).—Results are presented on the effects of depressing agents upon the selective flotation of CaF_2, $BaSO_4$ and $CaCO_3$. Expts. were conducted in a 250-cc. flotation machine with oleic acid as the collector. The effects of various agents are shown in curves. Salts with the same ions had no selective action during flotation. Salts of trivalent metals acted selectively in individual cases. Thus $Cr(NO_3)_3$ activates slightly the flotation of CaF_2 while depressing $BaSO_4$ and $CaCO_3$, whereas $Al(NO_3)_3$ at concns. of 100-200 g./ton slightly activates CaF_2 but depresses $CaCO_3$ and $BaSO_4$. Most of the salts of the bivalent metals—nitrates of Pb, Zn, Cu, $MgCl_2$ and $FeSO_4$—acted as depressors. The effects of Na and K salts were studied in detail. The permanganate, chromate and dichromate of K activated the flotation of CaF_2 while depressing to some extent the flotation of $CaCO_3$. Na_2SiO_3 depressed all 3 minerals, dextrin activated CaF_2 but depressed $BaSO_4$ sharply and slightly, and sulfite cellulose ext. sharply activates CaF_2 and depressed $BaSO_4$ and $CaCO_3$. In the flotation of CaF_2 + $BaSO_4$ and $CaCO_3$ + CaF_2 mixts. with oleic acid the concentrate had more CaF_2 than $BaSO_4$ or $CaCO_3$, whereas in the flotation of the ore minerals the flotation of CaF_2 is the least active. In the flotation of CaF_2-$BaSO_4$-quartz with oleic acid good yields were obtained. The presence of mineral dust (−250 mesh) in amts. usual for flotation did not alter the flotation of CaF_2 + $BaSO_4$. On the basis of these expts. results a method (not given) was developed for the flotation of CaF_2, $BaSO_4$ and $CaCO_3$.

H. F. Kamish

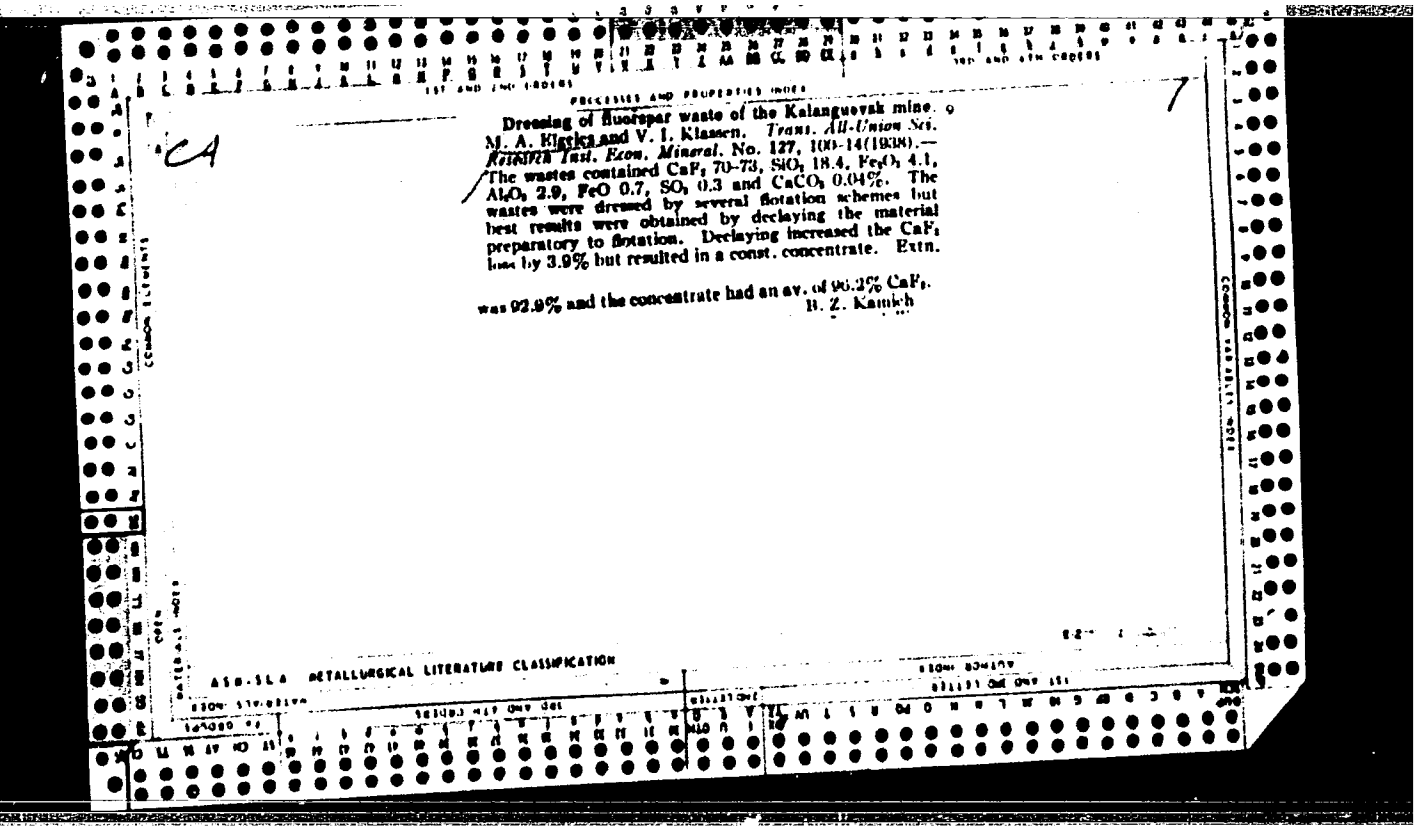


Studies of collectors for the flotation of nonmetallics. M. A. Klimpel and P. N. Fedorov. *Trans. All-Union Sci. Research Inst. Econ. Mineral.* No. 127, 30-47 (1938). — The disadvantages of oleic acid and its high cost led to a study of other flotation reagents such as peat tar and the oxidation products of solid paraffin and of solar oil. Peat tar and its sep. fractions in gasoline have satisfactory collecting properties and at present peat tar and oleic acid are used in apatite flotation at the Kirovsk plant. Peat tar also showed good collecting properties in mixts. with kerosene when used in the flotation of CaF_2. Oxidation products of paraffin gave good results in the flotation of CaF_2 at about 23-25° but not below 22°. Important disadvantage of these oxidation products is the necessity of using them in benzene and kerosene solns. of low concns. because at higher concns. lower yields are obtained. Oxidation products of solar oil (from Baku petroleum) acted both as collectors and foaming agents. In addn., they are inexpensive and can be used without any preliminary treatment. Conclusion: Peat tar and the oxidation products of solar oil may be used as inexpensive substitutes for oleic acid. H. Z. Kamish



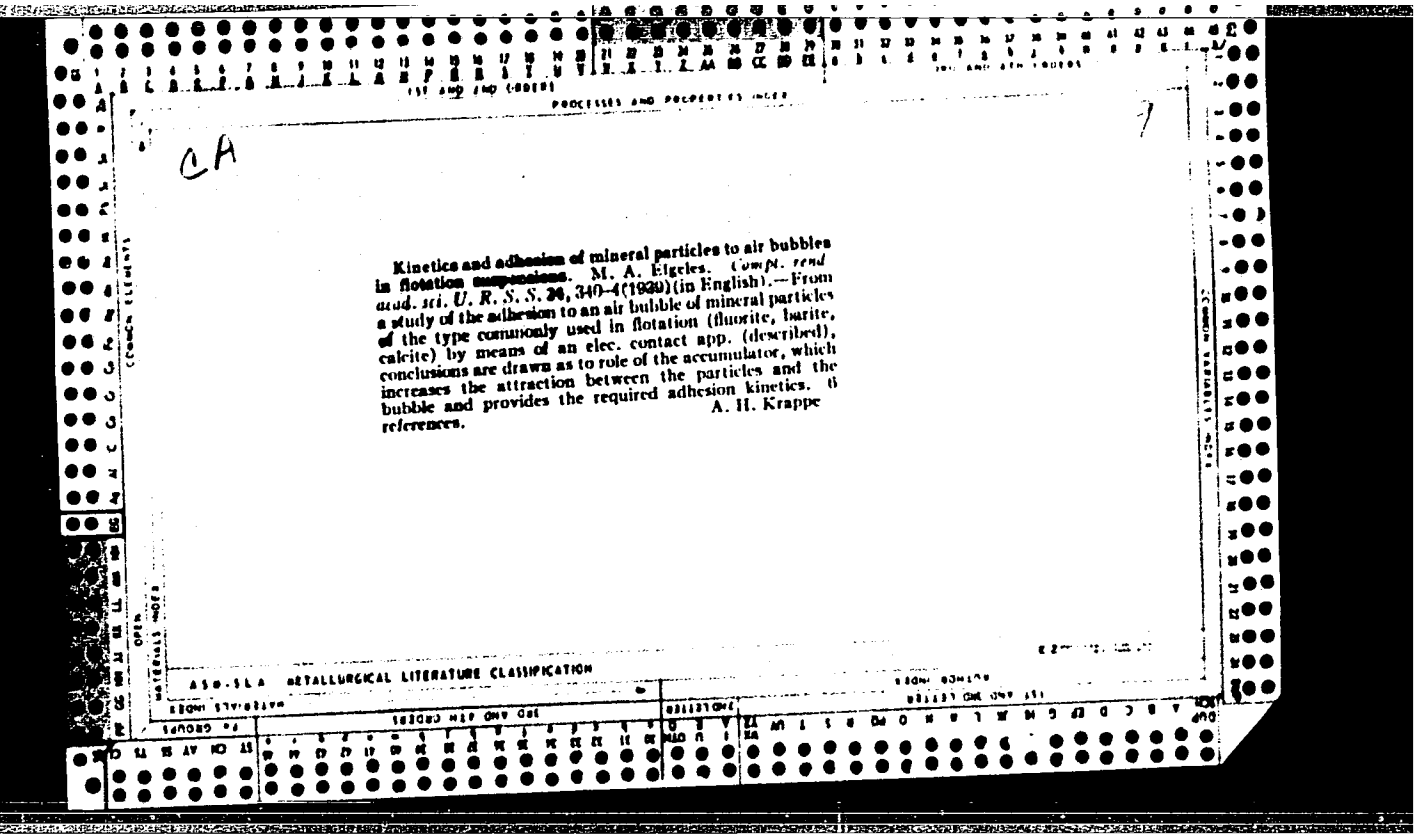
Flotation of lead-fluorite ores of the Takob deposit
M. A. Rigina and V. A. Alekseyev. *Trans. All Union Sci. Research Inst. Iron. Mineral.* No. 127, 67-82 (1938).
The Takob Pb-CaF_2 ores in the Tadzhik S. S. R. belong to complex CaF_2 sulfide ores. The ores contain fluorite, quartz, calcite, galenite, feldspar, sphalerite, kaolin, cerussite, anthasonite, calamine, hydrozincite and pyrite. The flotation of the ores was investigated by various schemes which are shown in flowsheets. On the basis of these investigations it is proposed to erect a plant for dressing 80 thousand tons/year. The operation of the plant is based on accepted values of 1.5% Pb and 18% CaF_2 in the ore. The Pb concentrate is to contain 50% Pb (80% extn.), the fluorite concentrate is to contain 95% CaF_2 (80% extn.), and the tailings will contain 15.7% CaF_2. In practice it is expected to increase the CaF_2 extn.
B. Z. Kamish

A50-51A METALLURGICAL LITERATURE CLASSIFICATION



Dressing of fluorspar waste of the Kalanguovsk mine. 9
M. A. Klaska and V. I. Klassen. *Trans. All-Union Sci. Research Inst. Econ. Mineral.* No. 127, 109-14(1938).—The wastes contained CaF_2 70-73, SiO_2 18.4, Fe_2O_3 4.1, Al_2O_3 2.9, FeO 0.7, SO_3 0.3 and $CaCO_3$ 0.04%. The wastes were dressed by several flotation schemes but best results were obtained by declaying the material preparatory to flotation. Declaying increased the CaF_2 loss by 3.9% but resulted in a const. concentrate. Extn. was 92.9% and the concentrate had an av. of 96.2% CaF_2.
B. Z. Kamich

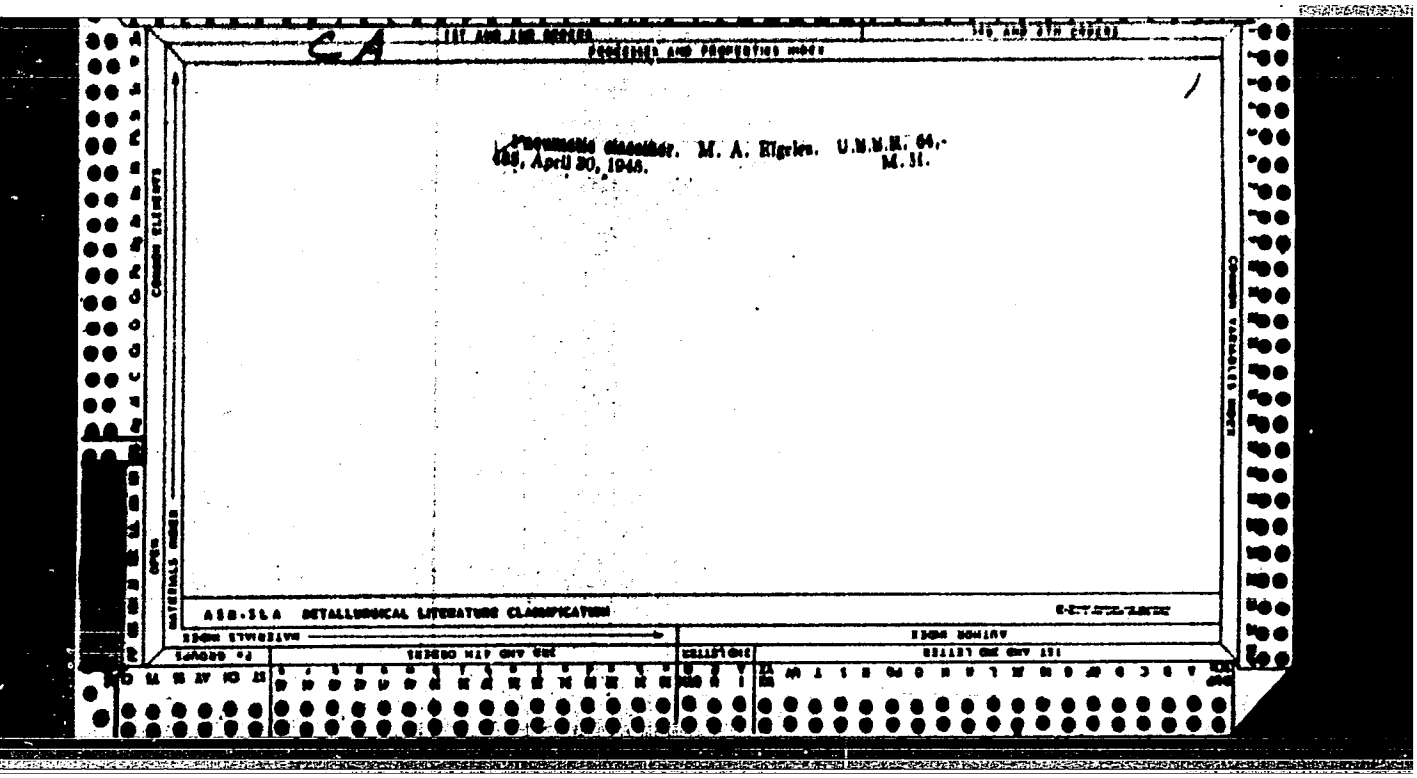
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

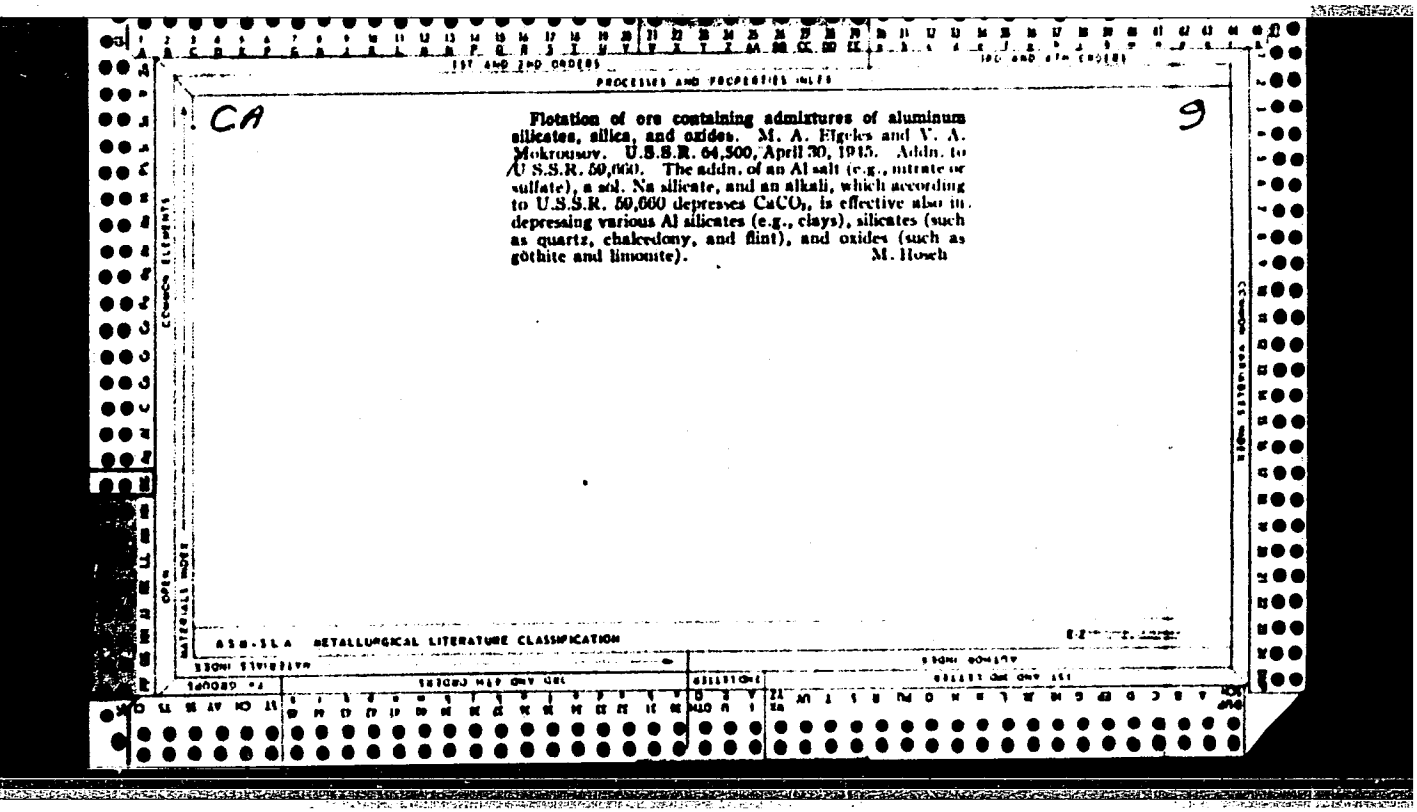


CA

Kinetics and adhesion of mineral particles to air bubbles in flotation suspensions. M. A. Elgeles. *Compt. rend. acad. sci. U. R. S. S.* **24**, 340–4 (1939) (in English).—From a study of the adhesion to an air bubble of mineral particles of the type commonly used in flotation (fluorite, barite, calcite) by means of an elec. contact app. (described), conclusions are drawn as to role of the accumulator, which increases the attraction between the particles and the bubble and provides the required adhesion kinetics. 6 references.
A. H. Krappe

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



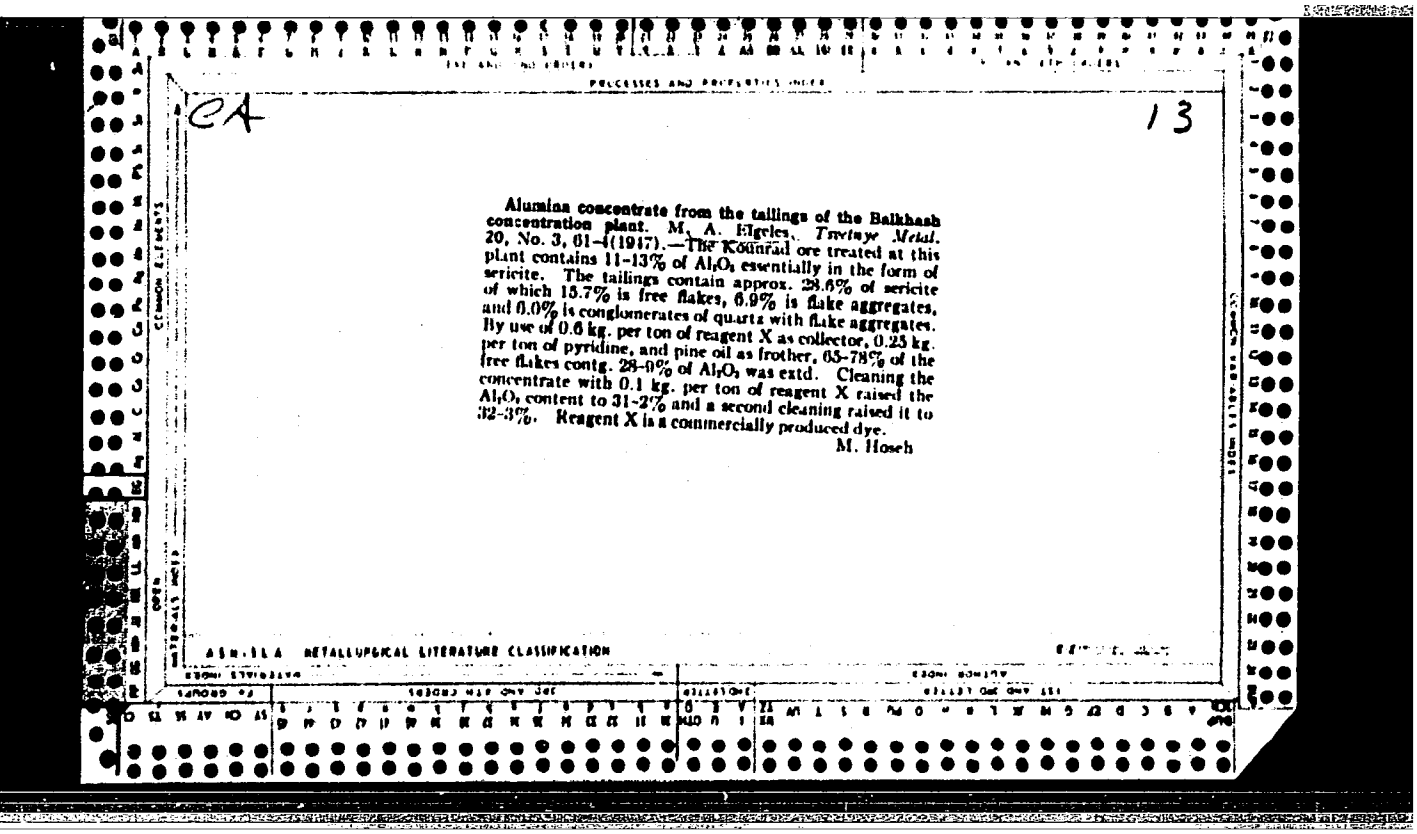


CA

9

Flotation of ore containing admixtures of aluminum silicates, silica, and oxides. M. A. Elgoles and V. A. Mokrousov. U.S.S.R. 64,500, April 30, 1945. Addn. to U.S.S.R. 59,660. The addn. of an Al salt (e.g., nitrate or sulfate), a sol. Na silicate, and an alkali, which according to U.S.S.R. 59,660 depresses $CaCO_3$, is effective also in depressing various Al silicates (e.g., clays), silicates (such as quartz, chalcedony, and flint), and oxides (such as göthite and limonite). M. Hoseh

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA 13

Alumina concentrate from the tailings of the Balkhash concentration plant. M. A. Elgeles. *Tsvetnye Metal.* 20, No. 3, 61–4(1947).—The Kounrad ore treated at this plant contains 11–13% of Al_2O_3 essentially in the form of sericite. The tailings contain approx. 28.6% of sericite of which 15.7% is free flakes, 6.9% is flake aggregates, and 6.0% is conglomerates of quartz with flake aggregates. By use of 0.6 kg. per ton of reagent X as collector, 0.25 kg. per ton of pyridine, and pine oil as frother, 65–78% of the free flakes contg. 28–0% of Al_2O_3 was extd. Cleaning the concentrate with 0.1 kg. per ton of reagent X raised the Al_2O_3 content to 31–2% and a second cleaning raised it to 32–3%. Reagent X is a commercially produced dye.

M. Hoseh

ASM-ILA METALLURGICAL LITERATURE CLASSIFICATION

EYGELES,M.A.; LEVIUSH,I.T.

Field flotation testing of ores. Sov.geol. no.21:73-86 '47.
(MIRA 8:8)

(Ores--Sampling and estimation) (Flotation)

eA

The influence of the size of mineral particles on their depression and activation in the flotation process. M. A. Eigeles. *Doklady Akad. Nauk S.S.S.R.* 57, 919-22 (1947); *Chem. Zentr.* (*Russian Zone Ed.*) 1949, I, 18.—The effectiveness of the flotation process in the presence of a collector (oleic acid) and a depressor-activator (Na silicate) is studied (cf. *Tsvetnye Metal.* 1945, No. 6). The concn. of the oleic acid was so chosen that the av. extn. of the expti. material (fluorite) was 71.5%. The addn. of 100 g./ton of Na silicate increased the flotation of the fluorite to 95.8%. The addn. of 150 g./ton produced a slight activation; with 500 g./ton only 42.6% was extd. and with 750 g./ton only 10.1% was extd. In general, the higher concns. of Na silicate withdrew the larger particles from the flotation and thus had a depressing action, while the smaller particles were still further activated. For particles of mesh size −14 + 20, concns. of 5–10 and 200–400 g./ton of Na silicate had an activating action, while concns. of 20–100 and 500–1000 g./ton had a depressing action. By use of the method and app. previously developed (*C.A.* 34, 989[4]), the adhesion of the fluorite to the individual air bubbles was studied. The finest particles (mesh size −250 + 750) could not be completely depressed even at Na silicate concns. of 10,000–15,000 g./ton. Increasing the concn. to 100 kg./ton again produced an activating effect.

M. G. Moore

1951

EYGELES, M. A.

PA 18T51

USSR/Flotation Jun 1947
Mineral Industries

"Mechanism of Effect on a Flotation of Variable Concentration of Hydrogen Ions in Pulp," M. A. Eygeles, All-Union Institute of Mineral Raw Materials, 5 pp

"Gornyy Zhurnal" Vol CXXI, No 6

Discusses the effect of pH on a flotation of oleate; the attachment of sodium oleate on the surface of minerals; and the effect of variable concentration of H^+ and OH^- or kinetic attachment of mineral particles to air bubbles, etc. Graphs and tables.

18T51

EYGELES, M.A.

Kinetics of mineralisation of air bubbles in selective flotation and the effect of flotation reagents on it. Trudy Soveshchaniya Teorii Flotatsion. Obogashcheniya, Moscow '48, Rol' Gazov i Reagentov v Protsessakh Flotatsii '50, p. 63-84. (MLRA 3:11)
(CA 47 no.13:6319 '53)

EYGELES, M.A.

PHASE I TREASURE ISLAND BIBLIOGRAPHIC REPORT AID 165 - I

BOOK Call No.: AF546504

Author: EYGELES, M. A., Professor, Doctor of Technical Sciences
Full Title: CONCENTRATION OF NONMETALLIC USEFUL ORES
Transliterated Title: Obogashcheniye nemetallicheskikh poleznykh iskopayemykh

Publishing Data
Originating Agency: None
Publishing House: State Publishing House of Literature on Construction Materials
Date: 1952 No. pp.: 563 No. copies: 3,000
Editorial Staff
Editor: Glezarova, I. Tech. Ed.: None
Editor-in-Chief (Scientific): Margolin, I. Appraiser: None
Others: Some chapters of the book were written by I. Z. Margolin, Master of Techn. Sciences, and by I. D. Finkel'shteyn, Master of Technical Sciences.

Text Data
Coverage: This is a textbook in preparing non-metallic ores, that is, the concentration of ore by mechanical removal of some of the gangue (crushing, grinding, flotation). The book gives the general principles of dressing of ores and of the machinery used in the USSR. It discusses specifically the preparation of non-metallic ores like asbestos, graphite, talc, and kaolin, clays for ceramics and sands for glass, production of cement and of other materials used in construction (chalk, gravel, stone, sand). Charts, tables.

Obogashcheniye nemetallicheskikh poleznykh iskopayemykh AID 165 - I

The book outlines the subject in a very general way, and does not give any new methods or indicate clearly the machinery produced in the USSR. It therefore does not appear to be of special interest.

Purpose: The book was approved by the School Board of the Ministry of the Building Materials Industry as a textbook for technical colleges.

Facilities: None

No. of Russian and Slavic References: 18 (from 1929 to 1950). No foreign references given.

Available: A.I.D., Library of Congress.

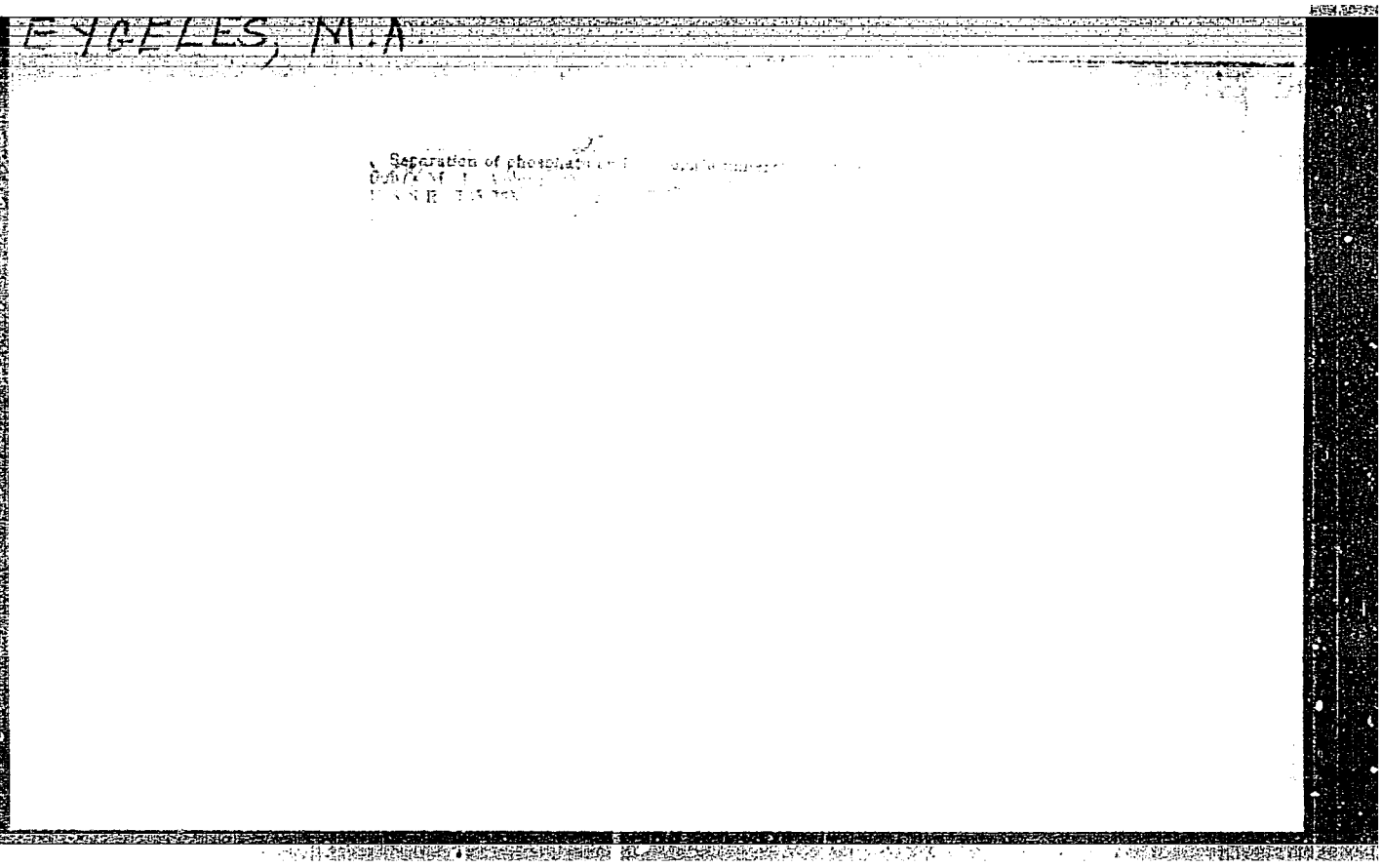
EYGELES, M.A.

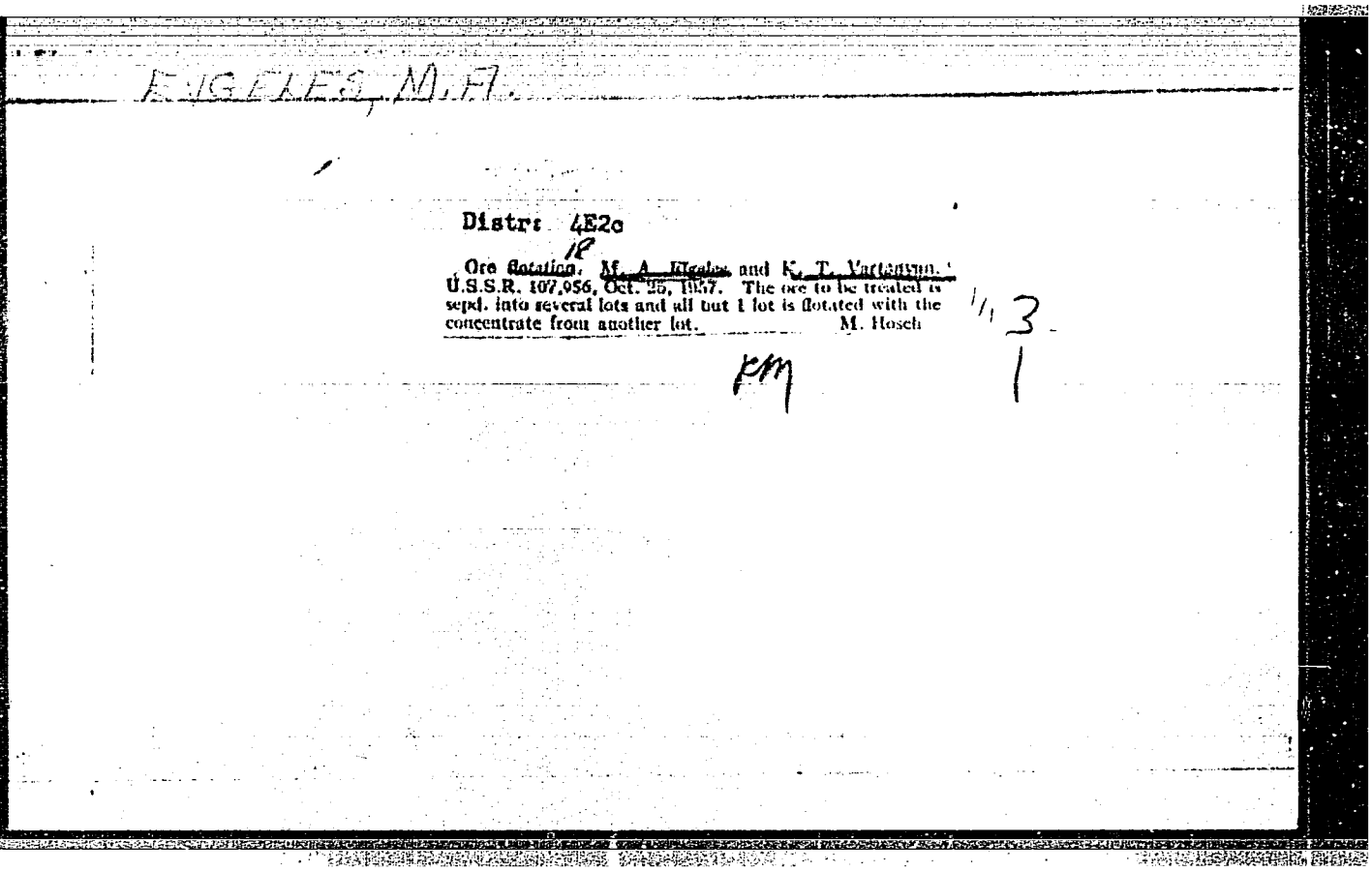
Technological problems of mineral resources during the search for deposits. Razved.i okh.nedr.22 no.2:23-28 F '56. (MLRA 9:6)
(Prospecting) (Mines and mineral resources)

EYGELES, M. A.

"Selective Flotation of Non-Sulphide Minerals" was a paper submitted at International Congress on Mineral Dressing, 18-21 Sep 57, Stockholm.

C-3,800,154.





ENGELES, M.F.

Distr: 4E2c

Ore flotation. M. A. Hlgalm and K. T. Vartanyan. U.S.S.R. 107,056, Oct. 25, 1957. The ore to be treated is sepd. into several lots and all but 1 lot is flotated with the concentrate from another lot. M. Hosch

Eygeles, M.A.

AUTHORS: Eygeles, M. A., Khonina, O. I., Volova, M. L. 64-8-6/19

TITLE: Selective Flotation of the Carbonate-Phosphorite Ore (Selektivnaya flotatsiya karbonatno-fosforitnoy rudy).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 8, pp. 25-28 (USSR)

ABSTRACT: The collective effect of the alkyl sulphate in the flotation of calcite, dolomite, and phosphorite was investigated here. At present some types of the sodium-alkyl sulphate are produced in the USSR as solutions for the textile industry. One of them was used here. It is produced from the fat of marine animals and has the general formula $R\text{-}O\text{-}SO_3Na$. (R contains 12 up to 20 carbon atoms). The obtained data show that the slightly alkaline medium is the best for the calcite flotation. In the dolomite flotation the p_H-value zone of the medium is much broader and in the case of an introduction of great quantities of oxalic acid occurs an intensive flotation in the dolomite. In consequence of a much slower solution of the dolomite in the acid medium (than in calcite) an acid medium can be maintained in the flotation of the dolomite. In the flotation of calcite it was

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not possible to obtain a p_H-value of the pulp (dross) below 6. The comparison of the results in the flotation of the calcite and limestone shows that in the flotation by means of the alkyl sulphate the output of the calcite (according to the amount) is analogous to the output of the minerals by other collectors, whereas in the flotation of limestone the essential quantity of the great particles remain in the chamber product. It is assumed that this is connected not only with the more difficult carrying out of the flotation of the fine-crystalline limestone, but also with the natural impurity of it and with the considerably changing surface properties. The screen analysis of the flotation products shows that the essential content of carbonates in the refuse was obtained at the cost of the great particles of the fine-crystalline limestone. A reduction of the grain size of the flotation material up to -74μ garantees a calcite output up to 90% in the case of a consumption of 750 g sodium alkyl sulphate per 1 ton of ore. Simultaneously an important part of the phosphate (circa 60%) is produced. In order to increase the selectivity in the flotation of the ores with alkyl sulphate the effect

of the different flotation regulator was investigated here, of the fundamental ones as well as in the purification operation. The investigation of the most used regulator of sodium silicate, showed that in the introduction of the same into the pulp (dross) no considerable improvement of the selectivity occurs in the fundamental flotation. Great sodium silicate quantities exercise a depression on the flotation of the carbonates and phosphates. The introduction of the sodium silicate into purified flotations garantee on the other hand good separation indices (in the separation of the carbonates from the phosphates). Comprisingly it is stated that the application of the sodium alkyl phosphate offers the possibility of obtaining from an ore with 16,8 % P_2O_5 and 20 % CO_2 a phosphate concentrate with 35% P_2O_5 with an output of 92% of the initial product for the flotation. The most essential part of the limestone (85,4%) yields waste products. There are 4 figures, 6 tables, and 9 references, 7 of which are Slavic.

Selective Flotation of the Carbonate-Phosphorite Ore 64-8-6/19

ASSOCIATION: All-Union Institute of Mineral Raw Materials (Vsesoyuznyy institut mineral'nogo syr'ya).

AVAILABLE: Library of Congress

Card 4/4

EYGELES, M.A.; KHONINA, O.I.; VOLOVA, M.L.

Selective flotation of carbonate - phosphorite ore. Khim. prom. no.8:473-476 D '57. (MIRA 11:2)

1. Vsesoyuznyy institut mineral'nogo syr'ya.
(Carbonates) (Phosphorites) (Flotation)

SHMANENKOV, I.V.; TITOV, V.I.; RUSANOV, A.K.; ROZHKOVA, Ye.V.; EYGELES, M.A.; ZVEREV, L.V.

All-Union conference on laboratory methods of studying ores and minerals of rare and trace elements. Sov. geol. no.61:158-166 '57. (MIRA 11:4)

1. Vsesoyuznyy institut mineral'nogo syr'ya.
(Mineralogy--Congresses)

M.A. EYGELES, (A.I. Grekulova), (A.M.Shishov)

"EXTRACTION OF PITCHBLENDE FROM SYNTHETIC MIXTURES AND ORES"

by M. A. Eygeles, A. L. Grekulova, A. M. Shishov

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

EYGELES M.A.

EYGELES, M. A., Professor (VIMS)

"Errors in N. A. Yanis' work"

report presented at the 4th Scientific and Technical Session of the Mekhanobr Inst, Leningrad, 15-18 July 1958

M.A. EYGELES and (I. T. Levyush)

"FLOTABILITY OF BERYL" by M. A. Eygeles, I. T. Levyush

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

MITROFANOV, Spiridon Ivanovich,; EYGELES, M.A., doktor tekhn. nauk, retsenzent,; STREL'TSIN, G.S., kand.tekhn.nauk, retsenzent; MATVEYENKO, N.V., inzh., retsenzent,; TROITSKIY, A.V., red.; YEZDOKOVA, M.L., red. izd-va,; VAYNSTEYN, Ye. B., tekhn. red.

[Selective flotation] Selektivnaia flotatsiia; teoriia i praktika. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 726 p. (MIRA 11:11)
(Flotation)

GINZBURG, A.I.; MECHAYEVA, Ye.A.; LAVRENOV, Yu.B.; POZHARITSKAYA, L.K.; MALYSHEV, I.I.,red.; RODIONOV, G.G.,red.; FAGUTOV, F.P.,red.; KHRUSHCHOV, N.A.,red.; CHERNOSVITOV, Yu.L.,red.; SHMANENKOV, I.V., red.; SHCHERBINA, V.V.,red.; EYGELES, M.A.,red.; OVCHINNIKOVA, S.V., red.; AVERKIYEVA, T.A.,tekhn.red.

[Rare metal carbonatites] Redkometal'nye karbonatity. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhr.nedr, 1958. 126 p. (Geologiia mestorozhdenii redkikh elementov, no.1) (MIRA 12:2)

(Carbonates (Geology))

EYGELES, M.A.; MASH'YANOVA, A.V.

Rate and selectivity of ilmenite flotation. Obog. rud. 3 no.3:8-13 '58. (MIRA 12:1)

(Flotation) (Ilmenite)

AUTHOR: Eygeles, M.A. Professor 136-58-3-3/21

TITLE: Influence of Regulators on the Reaction of Collectors with the surface of minerals (O vliyanii regulyatorov na vzaimodeystviye sobirateley s poverkhnost'yu mineralov)

PERIODICAL: Tsvetnyye Metally, 1958, Nr.3. pp. 12 - 19 (USSR)

ABSTRACT: In this article experimental data are presented relevant to the question of the possibility of the thermodynamical study of depression reactions. The author's investigations employed sodium oxalate and potassium chronate and dichromate as depressors; sodium tridecylate marked with radioactive C^{14} and lauric and oleic acids as the collector and the experiments were carried out with a laboratory machine. G.F. Boyarshinova, O.G. Simonova and Zaydenberg participated. Flotation curves for fluorite, barite and calcite under various conditions (figs. 1, 3, 4, 6) and curves showing the fixing of the tridecylate on the mineral surface (figs.2, 5) are presented and discussed. It is shown that chemical calculations based on the equilibrium constants of the reactions of fluorite with lauric acid and sodium tridecylate in the presence of sodium-oxalate are misleading and useless for forecasting the action of reagents on fluorite flotation; the same applies to barite and calcite with oleic acid and sodium tridecylate in the presence of potassium chromate and dichromate. Chemical calculations were also found to

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Influence of regulators on the reaction of collectors with the surface of minerals.

be unsatisfactory for the fixing of sodium tridecylate on fluorite and barite in the presence of sodium oxalate and chromate respectively, and for the fixing of oleic acid on barite and calcite in the presence of chromate. The reasons for unsuitability of the thermodynamic methods developed by various authors for investigating the reaction of minerals with an anionic collector in the presence of an anionic depressor are analysed and conditions for applying the thermodynamic method to the study of collector-depressor reactions are stated. In this article the views of Prof. I.A. Kakovskiy and of S.I. Mitrofanov are challenged. There are 6 figures and 15 references of which 11 are Slavic.

ASSOCIATION: Institute of Mineral Raw Materials (Institut Mineral'nogo Syr'ya)

AVAILABLE: Library of Congress.

1. Fluorite-Flotation 2. Barium ores-Flotation 3. Calcite-Flotation 4. Minerals-Separation-Equipment

Card 2/2

AUTHOR: Eygeles, M.A. 132-58-7-3/13

TITLE: Requirements for Technological Samples of Beryllium, Spodumene and Tantalite - Columbite Ores (Trebovaniya k tekhnologicheskim probam berillovykh, spodumenovykh i tantalito-kolumbitovykh rud)

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 7, pp 12-17 (USSR)

ABSTRACT: The selection of samples is the first step in the technological examination of a mineral and represents, in fact, the basis for the evaluation of the deposit. The author advises on the selection of samples from the deposits of rare metal ores (beryllium, spodumenes and tantalite - columbite ores). There can be three kinds of samples: 1) qualitative samples are taken from basic varieties according to the material composition, from basic varieties according to their textural and structural features, and from different ores according to the content of the mineral; 2) standard samples of ores which can be submitted to the same concentration process; 3) sectional samples taken from each consecutive level of exploitation. These samples must meet four requirements: 1) the sample must correspond to the investigated part of the deposit; 2) the sample must correspond to the essential parts of available reserves of the given mineral ; 3) the

Card 1/2